
V. ENVIRONMENTAL SETTING AND IMPACTS

L. UTILITIES AND SERVICE SYSTEMS

INTRODUCTION

This section addresses the potential impacts of the 2004 Housing Element and 2009 Housing Element policies related to wastewater treatment requirements, wastewater treatment facilities, stormwater drainage facilities, sufficiency of water supplies, adequate wastewater treatment capacity, adequate landfill capacity, and compliance with federal, state, and local statutes and regulations related to utilities and service systems. Responses from service providers are included in Appendix H to this EIR.

ENVIRONMENTAL SETTING

Water Supply

The San Francisco Public Utilities Commission (SFPUC) provides water, wastewater, and municipal power services to the City. The SFPUC manages a complex water supply system stretching from the Sierra Nevada to San Francisco, featuring a series of reservoirs, tunnels, pipelines, and treatment systems. The SFPUC operates 22 pump stations and approximately 1,240 miles of pipelines that deliver water to local customers.¹ Approximately 800,000 people in the City receive water from this distribution system.

SFPUC Regional Water System

The SFPUC Regional Water System (RWS) currently serves an average of approximately 265 million gallons per day (mgd) to 2.5 million users in Tuolumne, Alameda, Santa Clara, San Mateo and San Francisco counties. Approximately one-third of those customers reside in San Francisco. The SFPUC RWS is a complex system and supplies water from two primary sources:²

- Tuolumne River through the Hetch Hetchy Reservoir; and
- Local runoff into reservoirs in the Bay Area and reservoirs in the Alameda and Peninsula watersheds.

Water stored by Hetch Hetchy Reservoir through the Hetch Hetchy Water and Power (HHWP) Project represents the majority of the water supply available to the SFPUC. On average, the HHWP Project provides over 85 percent of the water delivered by the SFPUC. During drought, the water received from the HHWP Project can amount to over 93 percent of the total water delivered.

¹ San Francisco Public Utilities Commission (SFPUC), Water Service General Information, website: http://sfwater.org/detail.cfm/MC_ID/10/MSID_ID/46/C_ID/364/Keyword/2.3%20million, accessed April 5, 2009.

² SFPUC, 2005 Urban Water Management Plan for the City and County of San Francisco, at pages 11-16, December 2005.

Bay Area reservoirs provide on average approximately 15 percent of the water delivered by the SFPUC RWS. The local watershed facilities are operated to conserve local runoff for delivery. On the San Francisco Peninsula, the SFPUC utilizes Crystal Springs Reservoir, San Andreas Reservoir, and Pilarcitos Reservoir to capture local watershed runoff. In the Alameda Creek watershed, the SFPUC constructed the Calaveras Reservoir and San Antonio Reservoir. In addition to capturing runoff, San Antonio, Crystal Springs, and San Andreas reservoirs also provide storage for Hetch Hetchy water diversions. The local watershed facilities also serve as an emergency water supply in the event of an interruption to Hetch Hetchy diversions.

The amount of water available to the SFPUC's retail and wholesale customers is constrained by hydrology, physical facilities, and the institutional parameters that allocate the water supply of the Tuolumne River. Due to these constraints, the SFPUC is dependent on reservoir storage to ensure its water supplies. More importantly, reservoir storage provides the SFPUC RWS with year-to-year water supply carry-over capability. During dry years the SFPUC has a very small share of Tuolumne River runoff available and the local Bay Area watersheds produce very little water. Reservoir storage is critical to the SFPUC during drought cycles since it enables the SFPUC to carry-over water supply from wet years to dry years.

Local Water Supply Sources

Groundwater

San Francisco overlies all or part of seven groundwater basins. These groundwater basins include the Westside, Lobos, Marina, Downtown, Islais Valley, South and Visitation Valley basins. The Lobos, Marina, Downtown and South basins are located wholly within the City limits, while the remaining three extend south into San Mateo County. The portion of the Westside Basin aquifer located within San Francisco is referred to as the North Westside Basin. With the exception of the Westside and Lobos basins, all of the basins are generally inadequate to supply a significant amount of groundwater for municipal supply due to low yield.

Early in its history, San Francisco made significant use of local groundwater, springs, and spring-fed surface water. However, after the development of surface water supplies in the Peninsula and Alameda watersheds by Spring Valley Water Company and the subsequent completion of the Hetch Hetchy Reservoir and aqueduct in the 1930's, the municipal water supply system has relied almost exclusively on surface water from local runoff, the Alameda and Peninsula watersheds, and the Tuolumne River watershed. Local groundwater use, however, has continued in the City primarily for irrigation purposes. The San Francisco Zoo and Golden Gate Park use groundwater for non-potable purposes.

Local Recycled Water

Currently in San Francisco, disinfected secondary-treated recycled water from the SFPUC's Southeast Water Pollution Control Plant (SEWPCP) is used on a limited basis for wash-down operations, which is a water and/or chemical high-pressure cleaning process, and is provided to construction contractors for dust

control and other nonessential construction purposes. Current use of recycled water for these purposes in San Francisco is less than one mgd.

Local Water Conservation

It is anticipated that through the continuation and expansion of conservation programs, per capita water use will continue to decrease into the future. Current gross per capita water use within San Francisco is 91.5 gallons per capita per day (gpcd) with residential water use calculated to be approximately 57 gpcd, the lowest use of any major urban area in California. The SFPUC's demand management programs range from financial incentives for plumbing devices to improvements in the distribution efficiency of the system.

Water Supply and Demand

The SFPUC's retail water customers include the residents, business and industries located within the corporate boundaries San Francisco. Table V.L-1 provides a breakdown of SFPUC water supplies from 2010 to 2030. As shown, the SFPUC's retail water supplies increase to 94.5 mgd in 2015 when the SFPUC's Water System Improvement Plan (WSIP) water supply sources are readily available.

Under the Water Shortage Allocation Plan (WSAP), SFPUC retail customers would experience no reduction in deliveries at a ten percent shortage. However, during a twenty percent system-wide shortage, the retail customers would experience a 1.9 percent reduction in retail deliveries. This assumes the full development of the additional ten mgd of local WSIP supplies in the retail service area. These ten mgd of local supplies are not subject to reduction under the WSAP as the WSAP only allocates water supplies from the RWS. Table V.L-2 shows SFPUC RWS retail supply schedule during normal, single dry year, and multiple dry year periods.

**Table V.L-1
SFPUC Water Supplies 2010-2030**

Current Water Supply Sources	2010	2015	2020	2025	2030
SFPUC RWS (Surface water: Tuolumne River, Alameda & Peninsula) ¹	81.0	81.0	81.0	81.0	81.0
Groundwater Sources					
Groundwater (In-City Irrigation Purposes)	2.5 ²	0.5 ³	0.5 ³	0.5 ³	0.5 ³
Groundwater at Castlewood ⁴	1.0 ⁴	1.0 ⁴	1.0 ⁴	1.0 ⁴	1.0 ⁴
Groundwater: Treated for Potable – Previously used for In-City Irrigation Purposes ⁵	0.0	2.0	2.0	2.0	2.0
Groundwater Subtotal	3.5	3.5	3.5	3.5	3.5
Current Water Supply Subtotal	84.5	84.5	84.5	84.5	84.5
WSIP Water Supply Sources					
Groundwater Development: Potable from SF GWSP (Westside Groundwater Basin) ⁶	0.0	2.0	2.0	2.0	2.0
Recycled Water Expansion Irrigation ⁷	0.0	4.0	4.0	4.0	4.0
Supply Conservation Program	0.0	4.0	4.0	4.0	4.0
WSIP Supply Subtotal	0.0	10.0	10.0	10.0	10.0
Total Retail Supply (Current and WSIP Supplies)	84.5	94.5	94.5	94.5	94.5
<i>Notes:</i>					

**Table V.L-1
SFPUC Water Supplies 2010-2030**

Current Water Supply Sources	2010	2015	2020	2025	2030
¹ (1) RWS surface water supplies are subject to reductions due to below-normal precipitation. This may affect dry year supplies - model shows supply reduction occurs in year 2 of multiple dry year event. (Source: SFPUC 2008 WSIP Phase Variant Supply limitation)					
² Groundwater serves irrigation to Golden Gate Park, SF Zoo, and Great Highway Median. (Source: 2005 SFPUC UWMP Table 8B page 43)					
³ A Groundwater reserve of 0.5 mgd for irrigation purposes will remain as part of SFPUC's non-potable groundwater supply. (Source: SFPUC 2008 WSIP Phase Variant)					
⁴ Castlewood current and projected use remains unchanged over 20 year planning horizon. (Source: 2005 SFPUC UWMP Table 8B page 43)					
⁵ 2.0 mgd of groundwater treated and blended for Potable water supply purposes. (Source: 2005 SFPUC UWMP Table 8B page 43)					
⁶ 2.0 mgd of new groundwater developed as part of the new local supply target. (Source: SFPUC 2008 WSIP Phase Variant Supply Target)					
⁷ 2.0 mgd of Recycled used for irrigation at Golden Gate Park, SF Zoo, Great Highway Median, and 2.0 mgd for other non-potable purposes. (Source: SFPUC 2008 WSIP Phase Variant Supply Target)					
Source: SFPUC, Final Water Supply Availability Study for City and County of San Francisco, October 2009, at page 12.					

**Table V.L-2
2005 – 2030 SFPUC Retail Allocations in Normal, Dry, and Multiple Dry Years**

Year	Normal Dry Year		Single Dry Year		Multiple Dry Year Event ²					
					Year 1		Year 2		Year 3	
	mgd	%	mgd	%	mgd	%	mgd	%	mgd	%
2010 ¹ , 2015, 2020, 2025, and 2030	81.0	100	81.0	100.0	81.0	100.0	79.5	98.1	79.5	98.1
Notes:										
¹ In 2010 the Retail allocation of RWS supply is reduced to 81 mgd to reflect the Retail allocation under the 2018 Phased WSIP Variant. 10 mgd of recycled water, groundwater, and conservation will be implemented by 2015 to make up for the loss in RWS supply. The 10 mgd of local supply is not subject to reduction under the WSAP.										
² Under the WSAP, the SFUPC Retail allocations at a 10 percent shortage are 85.86 mgd. However, due to the Phased WSIP Variant, only 81 mgd of RWS supply is shown. The remaining supply can be transferred from or to the Wholesale Customers under the terms of the Water Supply Agreement.										
Source: SFPUC, Final Water Supply Availability Study for City and County of San Francisco, October 2009, at page 19. Original Source: San Francisco Public Utilities Commission. 2005. Urban Water Management Plan for the City and County of San Francisco. p. 54-57 and discussions with SFPUC staff.										

The SFPUC incorporated the 2009 San Francisco Planning Department projections for residential and non-residential growth in San Francisco to assess the results of the Department’s projections and its effects on the City’s water demand. Table V.L-3 shows the results of the 2009 demand forecasts and represents the anticipated growth in demand commencing in 2010 and extending over the 20-year planning horizon to 2030. As shown, incremental residential growth demand commences in 2015 at 0.47 mgd and progresses to 1.89 mgd in 2030. In 2015, demand drops slightly due to a reduction in total residential demand.

**Table V.L-3
SFPUC Retail Demand (mgd)**

Users, Facilities, and Entities	Projected Water Demand				
	2010	2015	2020	2025	2030
Residential Demand (Single & Multiple Family) ¹	44.70	43.80	43.20	42.90	42.90
New Residential Demand generated by Projects and Incremental Growth ^{2,4}	-	0.47	0.95	1.42	1.89
Subtotal	44.70	44.27	44.15	44.32	44.79
Non-Residential – Business/Industrial Demands ^{3,4}	30.21	30.52	30.83	31.14	31.73
Subtotal	74.91	74.79	74.97	75.46	76.52
Unaccounted-for System Losses	7.30	7.30	7.30	7.30	7.30
Subtotal	82.21	82.09	82.27	82.76	83.82
Other Retail Demands ⁵	4.90	4.90	4.90	4.90	4.90
Lawrence Livermore Laboratory; Groveland CSD ⁶	1.20	1.20	1.20	1.20	1.20
City Irrigation Demand ⁷	2.5	2.5	2.5	2.5	2.5
Castlewood Community Demand ⁸	1.0	1.0	1.0	1.0	1.0
Total Retail Demand	91.81	91.69	91.87	92.36	93.42

Notes:

¹ Residential Demands (Source: 2005 SFPUC UWMP Table 8B, page 43)

² See Table 5-4. Multiple Family – [In 2030 Incremental Growth of 0.24 mgd + (CP-HPS II 10,500 DU) 1.04 mgd + (TI-YBI 8,000 DU) 1.17 mgd + (Parkmerced 8,900 total DU) 0.94 mgd = 3.40 mgd] Existing Demand is 1.51 mgd at all sites. [3.40 mgd – 1.51 = 1.89 mgd] as shown in Table 4-2 (Sources: ARUP Water Demand Memo for CP-HPS Phase II September 25, 2009; Parkmerced Water Demand Spreadsheet June 30, 2009; Treasure Island Water Technical Report December 2008 Updated August 2009)

³ See Table 5-5. Agriculture, Mining, Construction, Manufacturing, Transportation, Wholesale & Retail Trade, F.I.R.E., Services, Gov't including Builders – Contractors and Docks – Shipping. (Source: Adapted from 2009 ABAG Employment Projections in conjunction with SF Planning, July 2009) As developed in the Demand Study, SFPUC derived the employment water demands by taking the ABAG employment projections and multiplying by 42.42 gallons per employee per day and is consistent with SFPUC's demand projection methodology.

⁴ See Table 5-5. Non-residential (jobs/employment) demands at major project sites were assumed to be contained in the 2009 ABAG Employment projections. Growth in demand is incrementally increased to reflect the growth in jobs over the 20-year planning horizon. To avoid double-counting the water demand associated with the 2009 SF Planning Non-Residential Employment Projections and the non-residential demand calculated in the developer estimates at each of the Project sites, the total water demand at each of the developments was adjusted to remove the non-residential demands. This study assumes all non-residential demand is accounted for in the 2009 SF Planning Non-Residential Employment Projections. Table 5-4 shows the net change in water demand at the Project sites and the adjusted change in water demand without non-residential demand. Adapted by PBS&J and SFPUC September 2009 from ARUP Water Demand Memo for CP-HPS Phase II September 25, 2009; Parkmerced Water Demand Spreadsheet June 30, 2009; Treasure Island Water Technical Report December 2008 Updated August 2009

⁵ US Navy, SF International Airport, and other suburban/municipal accounts. (Source: 2005 SFPUC UWMP Table 8B, page 43)

⁶ Lawrence Livermore Laboratories (0.8 mgd); Groveland CSD (0.4 mgd) (Source: 2005 SFPUC UWMP Table 8B, page 43)

⁷ City Irrigation at Golden Gate Park, Great Highway Median and SF Zoo. (Source: 2005 SFPUC UWMP Table 8B, page 43)

⁸ Castlewood Community demand served by wells in the Pleasanton well field. (Source: 2005 SFPUC UWMP Table 8B, page 43)

Source: SFPUC, Final Water Supply Availability Study for City and County of San Francisco, October 2009, at page 26.

Table V.L-4 compares SFPUC retail supplies and demand during normal, single dry year, and multiple dry year periods. In 2010, prior to the development of the 10 mgd of local supplies, SFPUC can access an annual average 84.50 mgd from all water supply sources. As previously mentioned, beginning in 2015, when the WSIP sources are readily available, the SFPUC's retail water supplies increase to 94.5 mgd.

These supplies are assumed to be available in the quantities listed in Table V.L-4. SFPUC intends to use these supplies to meet its retail customer demands. The deficit shown in 2010 is the result of reducing the RWS supply to 81 mgd as per the Phased WSIP, without full development of the additional 10 mgd of new water supplies. However, Retail demand is currently lower than the 2010 projected demand (Fiscal Year 2007-2008 use was 83.9 mgd). If Retail demand exceeds the available RWS supply of 81.0 mgd between 2010 and 2015, and total RWS deliveries exceed 265 mgd between 2010 and 2015, the Water Supply Agreement allows the SFPUC to purchase additional water with the payment of an Environmental Surcharge.

As shown in Table V.L-4, during a multiple dry-year event³ commencing in 2030, it is possible that the SFPUC will not be able to meet 100 percent of retail demand in 2030. As modeled, a supply shortfall of 0.42 mgd is anticipated to occur in the second and third year of a multiple dry-year event. To overcome the potential 0.42 mgd supply deficit during multiple dry-years in 2030, the SFPUC will implement their adopted drought planning sequence and associated operating procedures that trigger different levels of water delivery reduction rationing relative to the volume of water actually stored in SFPUC reservoirs. If the SFPUC determines the projected total water storage to be less than an identified level sufficient to provide sustained deliveries during drought, the SFPUC may impose delivery reductions or rationing. The WSAP and Retail Water Shortage Allocation Plan (RWSAP) allow the SFPUC to reduce water deliveries to customers during periods of water shortage to achieve a positive balance of supplies and demands. Under WSAP, the RWS supply curtailment in multiple dry years of 1.5 mgd to 79.5 mgd results in a 1.9 percent reduction. The SFPUC, as part of the WSIP, adopted a water reliability objective of no greater than 20 percent rationing in any one year of a drought.

Table V.L-4
Projected Supply and Demand Comparison – Normal, Dry, and Multiple Dry Years (mgd)

Year	Retail Supply and Demand	Normal Dry Year	Single Dry Year	Multiple Dry Year Event ²		
				Year 1	Year 2	Year 3
2010 ¹	RWS Supply ¹	81.00	81.00	81.00	81.00	81.00
	Groundwater Supply ²	3.50	3.50	3.50	3.50	3.50
	Total Retail Supply ³	84.50	84.50	84.50	84.50	84.50
	Total Retail Demand ⁴	91.81	91.81	91.81	91.81	91.81
	Surplus/Deficit ⁵	-7.31	-7.31	-7.31	-8.81	-8.81
2015	RWS Supply ¹	81.00	81.00	81.00	79.50	79.50
	Groundwater ⁶	3.50	3.50	3.50	3.50	3.50
	WSIP Supply Sources ⁷	10.00	10.00	10.00	10.00	10.00
	Total City Supply ³	94.50	94.50	94.50	93.00	93.00
	Total Retail Demand ⁴	91.69	91.69	91.69	91.69	91.69
	Surplus/Deficit	2.81	2.81	2.81	1.31	1.31
2020	RWS Supply ¹	81.00	81.00	81.00	79.50	79.50
	Groundwater ⁶	3.50	3.50	3.50	3.50	3.50
	WSIP Supply Sources ⁷	10.00	10.00	10.00	10.00	10.00

³ Multiple dry-year events are defined as a three-year event per UWMP requirements. SFPUC determined that a multiple dry-year event is years 2-4 of SFPUC's 8.5 year design drought. SFPUC can meet 100 percent of deliveries in the first year of such an event.

**Table V.L-4
Projected Supply and Demand Comparison – Normal, Dry, and Multiple Dry Years (mgd)**

Year	Retail Supply and Demand	Normal Dry Year	Single Dry Year	Multiple Dry Year Event ²		
				Year 1	Year 2	Year 3
	Total City Supply ³	94.50	94.50	94.50	93.00	93.00
	Total Retail Demand ⁴	91.87	91.87	91.87	91.87	91.87
	Surplus/Deficit	2.63	2.63	2.63	1.13	1.13
2025	RWS Supply ¹	81.00	81.00	81.00	79.50	79.50
	Groundwater ⁶	3.50	3.50	3.50	3.50	3.50
	WSIP Supply Sources ⁷	10.00	10.00	10.00	10.00	10.00
	Total City Supply ³	94.50	94.50	94.50	93.00	93.00
	Total Retail Demand ⁴	92.36	92.36	92.36	92.36	92.36
	Surplus/Deficit	2.14	2.14	2.14	0.64	0.64
2030	RWS Supply ¹	81.00	81.00	81.00	79.50	79.50
	Groundwater ⁶	3.50	3.50	3.50	3.50	3.50
	WSIP Supply Sources ⁷	10.00	10.00	10.00	10.00	10.00
	Total City Supply ³	94.50	94.50	94.50	93.00	93.00
	Total Retail Demand ⁴	93.42	93.42	93.42	93.42	93.42
	Surplus/Deficit	1.08	1.08	1.08	-0.42 ⁸	-0.42 ⁸

Notes:¹ RWS Supply SFPUC Water Supplies Table 2-2² Groundwater Uses for In-City Irrigation and Castlewood (Water Supplies Table 2-2)³ Total Retail Supply from SFPUC Water Supplies Table 2-2⁴ SFPUC Retail Demand from Table 5-6

⁵ The deficit shown in 2010 is the result of reducing the RWS supply to 81 mgd as per the Phased WSIP Variant, without full development of the additional 10 mgd of new supplies. 10 mgd of new sources will be developed and available for use in SF by 2015. However, SF Retail demand is currently lower than projected (FY07/08 use was 83.9 mgd). If SF Retail demands exceed the available supply of 84.5 mgd between 2010 and 2015, the Water Supply Agreement allows the SFPUC to purchase additional water from the RWS. If combined Retail and wholesale deliveries exceed 265 mgd, the SFPUC Retail customers would be required to pay an Environmental Surcharge for deliveries over 81 mgd (Total RWS deliveries in FY07/08 were 256.7 mgd).

⁶ Groundwater Supplies at Castlewood and In-City Irrigation (SFPUC Water Supplies Table 2-2)⁷ WSIP Supply Sources (Recycled Water (4.0 mgd); Groundwater (2.0 mgd Existing and 2.0 from NWGWP, and WSIP Water Efficiency and Conservation (4.0 mgd) (see SFPUC Water Supplies Table 2-2)⁸ Deficit occurs in year 2 and 3 of multiple dry year event, SFPUC implements its Drought Year Water Shortage Contingency Plans - RWSAP and WSAP to balance supply and demand under this projected shortfall as described in Section 4.0

Source: SFPUC, Final Water Supply Availability Study for City and County of San Francisco, October 2009, at page 30.

Wastewater and Stormwater

Freshwater flow from the City to the Bay has been almost entirely diverted to the City's combined sewer and stormwater system using a networks of pipes over 900 miles long.⁴ Wastewater includes water that is washed down drains and toilets in homes and businesses, as well as stormwater, and water that is poured

⁴ SFPUC, Wastewater Enterprise, website: http://sfwater.org/Dept.cfm/MO_ID/48, accessed April 5, 2009.

into catch basins located at the end of each block in the City. San Francisco has close to 23,000 catch basins.⁵ Figure V.L-1 illustrates the location of the components of the City's combined sewer system.

The City's wastewater composition is estimated to be 47 percent residential, 47 percent commercial, and 6 percent industrial, on average over the entire citywide system.⁶ This combined sewer system reduces pollution in the San Francisco Bay Area and Pacific Ocean by treating urban runoff that would otherwise flow straight into the San Francisco Bay or Pacific Ocean. During dry weather, approximately 84 mgd of treated wastewater (effluent) is discharged from the combined sewer system to the San Francisco Bay through the South East Water Pollution Control Plant (SEWPCP) and to the Pacific Ocean through the Oceanside Water Pollution Control Plant (OWPCP). During wet weather, with additional wet weather facilities and operation, the plants can treat approximately 465 mgd prior to discharge, and wet weather flows in excess of this treatment capacity receive the equivalent of primary treatment prior to being discharged to the Bay and ocean through combined sewer overflow (CSO) structures located around the perimeter of the City. It is estimated that the City's wastewater system treats approximately 91 percent of San Francisco's stormwater runoff to the ocean or Bay.

The existing City sewer system is operational and all discharges, treatment plants, combined sewer discharges and outfalls are currently in full compliance with permit requirements.⁷ As such, the system is currently considered to be without deficiencies. However, the existing system is facing certain challenges, including 1) aging infrastructure (structural integrity and seismic reliability), 2) readiness for climate change (e.g. rising sea levels, changes in storm intensity and frequency), 3) operational efficiency related to changes in land use conditions, subsidence and reduction in pipe capacity, and 4) public nuisances and safety hazards related to flood and order control. Many elements of the system, though currently functional, are reaching the end of their useful life and will need to be replaced or repaired to maintain a high level of service.

⁵ SFPUC, Capturing and Storing Stormwater: Catch Basins and Storage Boxes, website: http://sfwater.org/mto_main.cfm/MC_ID/14/MSC_ID/117/MTO_ID/658#storage, accessed April 5, 2009.

⁶ Balboa Park Station Area Plan, Adopted by the Board of Supervisors April 7, 2009 and signed by the Mayor April 17, 2009, at page 271. Original Source: San Francisco Public Utilities Commission, Wastewater System Reliability Assessment, Baseline Summary, Draft. December 2003. Prepared by SFPUC Water Pollution Control Division, San Francisco Department of Public Works, Bureau of Engineering, Hydraulic & Mechanical Sections, and The Water Infrastructure Partners.

⁷ Marla Jurosek, Manager, SFPUC, response to service letter request, May 25, 2010.

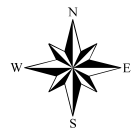
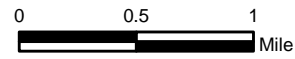


CITY AND COUNTY OF SAN FRANCISCO
PLANNING DEPARTMENT

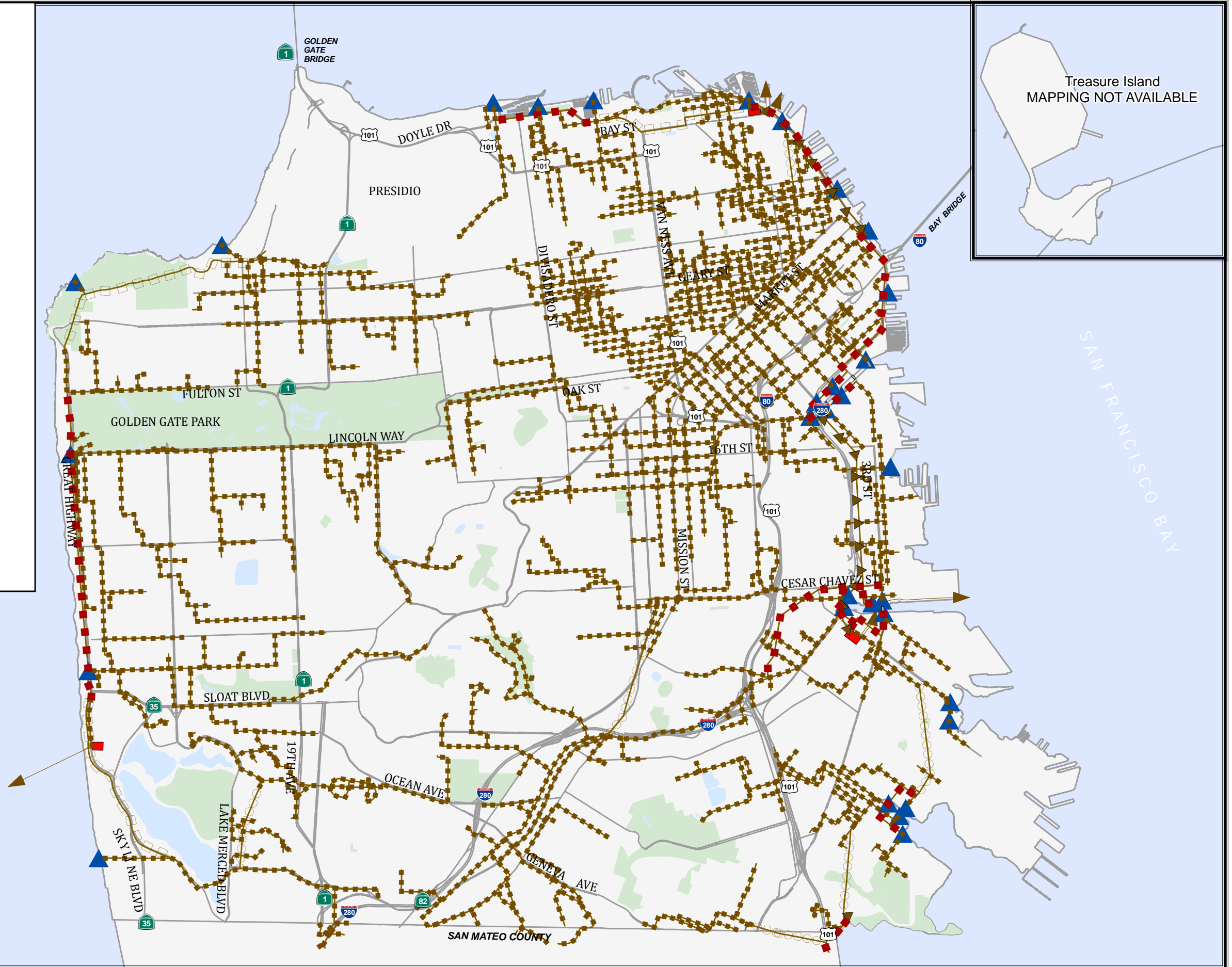
Figure V.L-1 Location of Existing Wastewater Utilities

Combined Sewer System

- ▲▲ Force Main
- Transport/storage tunnel
- ■ Transport/storage structure
- Tunnel
- — — — Underground Drain
- ▲ Combined Sewer Discharge
- Wastewater Treatment Plant Outfall
- Wastewater Treatment Plants
- Parks
- Water



Source: CCSF Public Utilities Commission, July 2008.



SAN FRANCISCO BAY

PACIFIC OCEAN

SAN MATEO COUNTY

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To address these concerns, the SFPUC is currently developing a capital improvement plan, the Sewer System Improvement Program (SSIP). The SSIP will assess the current and future needs of sewer system of the City of San Francisco. Development of the SSIP was initiated in 2005, with public input (collected through meetings, home mailings, and the SFPUC website) central to its development. The SSIP will propose a long-term vision for improvement of the sewer system and for sustainable sewer system management. Specifically, it will propose the replacement of the sewers and related facilities, and make other recommendations to address the system challenges noted above.

Treatment Facilities

The combined sewer system can be divided into the Bayside and Westside drainage basins that collect wastewater and stormwater from the east and west sides of the City, respectively. The dividing line extends roughly from Fort Point on the north to the San Francisco Golf Course on the south, as determined by the design and operation of the sewer system that further divides the system into sub-drainage basins or “sewersheds.” Wastewater flows from the entire east side of the City are transported to the SEWPCP located on Phelps Street near Third and Evans streets in the Bayview District. The OWPCP, located at 3500 Great Highway, adjacent to the San Francisco Zoo, treats wastewater from the western side of the City. The North Point Wet Weather Treatment Facility (NPWWTF), located on Bay Street, operates during wet weather to treat combined storm flows.

The SEWPCP was built in 1952 and expanded several times subsequently. The plant is located on Phelps Street near Evans Avenue in the Bayview District. The SEWPCP is an oxygen-activated sludge plant that provides secondary treatment for the wastewater from the east side of San Francisco (Bayside Watershed) plus some flow from other agencies. The Southeast Plant treats approximately 80 percent of the City’s total wastewater flow. Treated wastewater is discharged out a 900-foot-long pipe from the SEWPCP into the San Francisco Bay. The SEWPCP has a current daily average dry-weather flow of approximately 67 mgd. During wet weather, the SEP wet- weather facilities can provide full secondary treatment for up to 150 mgd and primary treatment for an additional 100 mgd of combined wastewater flow for a total wet-weather flow rate of 250 mgd.

The NPWWTF is a primary treatment plant for wet-weather flows from the northeast portion of the Bayside Watershed. The North Point Facility has been in operation since 1951. It is located on Bay Street in lower Telegraph Hill and the North Waterfront. The facility provides primary-level treatment of wastewater collected in the north part of the City during rainstorms. Treated wastewater is discharged from the NPWWTF through a pipe 900 feet into the San Francisco Bay. The NPWWTF has a peak hourly treatment capacity of 150 mgd. On average it operates 30 times per year treating an annual average total flow of 0.7 billion gallons.

The OWPCP was built in 1993, and is located off Great Highway near the San Francisco Zoo, and serves the west side of the City. Treated wastewater is discharged from the Plant via a 4.5 mile pipeline in the Pacific Ocean. The Oceanside Wastewater Treatment Plant was designed for an average dry-weather flow of 21 mgd and currently treats approximately 16 mgd. It has a peak dry-weather flow capacity of 43 mgd and can treat up to 65 mgd during wet weather periods.

Storage and Transports

Storage/transports are huge underground rectangular tanks or tunnels that surround the City like a moat. During rainstorms, storage/transports prevent untreated shoreline discharges. Up to 193 million gallons of combined sewage and stormwater is stored in these facilities citywide for later treatment. Storage/transports have three functions: 1) Capture the runoff: at the City's perimeter, the storage/transports catch the combined stormwater and sewage; 2) Storage: storage/transports hold stormwater and sewage for later treatment; 3) Treatment: storage/transports provide treatment consisting of settling and removal of floatable materials prior to shoreline discharge when wastewater flow exceeds the system's total storage capacity.

Most rainstorms do not completely fill storage/transports and the wastewater is held for later treatment. The solids retained in storage/transports are flushed to the treatment plants after storms. When treatment plants are at full capacity and all storage elements are full and rain continues to fall, shoreline-treated discharges occur. The treated discharge is approximately 6 percent sewage and 94 percent stormwater. Treated discharges can occur from one to ten times per year, depending on location.

All discharges from the combined sewer system to the Bay, through either the outfalls or CSOs, are operated in compliance with the federal Clean Water Act and the State's Port-Cologne Water Quality Control Act through permits issued by the California Regional Water Quality Control Board, San Francisco Bay Region (SFBRWQCB).⁸

Pump Stations

Pump stations move the combined flows to treatment plants or to storage/transports. Every storm is different and pumping rates are adjusted to accommodate differing rainfall conditions and thus are able to achieve maximum use of available facilities.

Solid Waste

San Francisco generates about 5,600 tons of solid waste each day, including materials from residents and businesses. Less than one-third of this material, approximately 1,800 tons a day, is disposed of in landfills. Waste picked up in the City for disposal must be collected by permitted haulers. Norcal Waste Systems holds virtually all the permits in San Francisco, and collection is handled by two of Norcal Waste System's subsidiary companies, Recology Sunset Scavenger and Recology Golden Gate. These companies transport waste to a consolidation center, called a Transfer Station. Recycling and transfer services are provided by Recology San Francisco.⁹ All waste taken to the Transfer Station (approximately 82 percent of all waste generated in the City) is transported to Waste Management's Altamont Landfill,

⁸ Balboa Park Station Area Plan, Adopted by the Board of Supervisors April 7, 2009, at page 272. Original Source: Regional Water Quality Control Board, San Francisco Bay Region, Water Quality Control Plan for the San Francisco Bay Basin, December 22, 2006.

⁹ John Glaub, Sunset Scavenger, response to service letter request, November 6, 2009.

located approximately 60 miles from San Francisco at 10840 Altamont Pass Road in Livermore. The landfill is owned and operated by Waste Management of Alameda County. The balance of the waste ends up in a number of other landfills in the region.¹⁰

The City entered into a long-term landfill disposal agreement effective November 1, 1988, with the Sanitary Fill Company (now SF Recycling & Disposal) and the Oakland Scavenger Company (now Waste Management of Alameda County). The agreement provides for the disposition of up to 15 million tons of the City's municipal solid waste in the Altamont Landfill or 65 years of disposal, whichever comes first. The remaining capacity in the disposal contract is approximately two million tons.¹¹ The City is in the process of contracting for 5 million tons of additional disposal capacity with another service provider for the period after conclusion of the Altamont contract.

Waste generation in the City has been climbing fairly steadily for the past ten years. During the past three years, waste generation has increased somewhat more slowly. What has changed even more dramatically over the past decade is landfill diversion, made possible by recycling and composting programs, which has leapt from less than 400,000 tons in 1995 to over 1.4 million tons in 2006. Total waste disposal for the City has been dropping since 2000, from 872,731 tons in 2000¹² to 594,732 tons in 2008,¹³ while diversion has increased over the same period. Disposal at the Altamont landfill by SF Recycling & Disposal increased fairly consistently each year between 1995 and 2000, reaching a peak of 729,717 tons in 2000. Since then, disposal declined every year through 2005, when it dropped to 545,437 tons. In 2007, Altamont disposal dropped to 520,265 tons.¹⁴

¹⁰ City and County of San Francisco, Department of the Environment, "Request for Qualifications: Landfill Disposal Capacity", at page 1, website: www.sfgov.org/site/uploadedfiles/sfenvironment/meetings/coe/supporting/2008/RFQ.doc, accessed February 26, 2009.

¹¹ John Glaub, Sunset Scavenger, response to service letter request, November 6, 2009.

¹² Lindsey Riddell, "Two firms battle for S.F. landfill contract", San Francisco Business Times, July 3, 2009, website: <http://sanfrancisco.bizjournals.com/sanfrancisco/stories/2009/07/06/story9.html>, accessed January 26, 2010.

¹³ California Integrated Waste Management Board, Jurisdiction Profile for San Francisco, website: <http://www.ciwmb.ca.gov/profiles/Juris/JurProfile2.asp?RG=C&JURID=438&JUR=San+Francisco>, accessed January 26, 2010.

¹⁴ City and County of San Francisco, Department of the Environment, "Request for Qualifications: Landfill Disposal Capacity", at page 2, website: www.sfgov.org/site/uploadedfiles/sfenvironment/meetings/coe/supporting/2008/RFQ.doc, accessed February 26, 2009.

REGULATORY SETTING

Federal

Clean Water Act

The Clean Water Act assists in the development and implementation of waste treatment management plans and practices by requiring provisions for treatment of waste using the best practicable technology before there is any discharge of pollutants into receiving waters, as well as the confined disposal of pollution so that it would not migrate to result in water or other environmental pollution.

National Pollutant Discharge Elimination System

The Water Permits Division (WPD) within the EPA Office of Wastewater Management leads and manages the NPDES permit program which oversees stormwater management and sewer and sanitary sewer overflows.

Safe Drinking Water Act

The Federal Safe Drinking Water Act (SDWA) established standards for contaminants in drinking water supplies. Maximum contaminant levels or treatment techniques were established for each of the contaminants. The listed contaminants include metals, nitrates, asbestos, total dissolved solids, and microbes.

Federal Combined Sewer Overflow Control Policy

On April 11, 1994, the EPA adopted the Combined Sewer Overflow Control Policy, which became part of the Clean Water Act in December 2000. This policy establishes a consistent national approach for controlling discharges from combined sewers. Using the NPDES permit program, the policy initiates a two-phased process with higher priority given to more environmentally sensitive areas. During the first phase, the permittee is required to implement the controls that constitute the technology-based requirements of the Clean Water Act and can reduce the frequency of CSOs and their effects on receiving water quality.

The City is currently implementing these controls as required by the CSO control policy. This includes development of a Water Pollution Prevention Program which focuses on minimizing pollutants from entering the City's combined sewer system and addresses pollutants from residential, commercial, industrial, and non-point pollutant sources.

State

Department of Health Services

In California, water reclamation is regulated under Title 22 California Code of Regulations, Division 4, Section 60301 *et seq.* ("Title 22"), promulgated in 1978 by the Department of Health Services to assure

protection of public health where water use is involved. Title 22 criteria include water quality standards, as well as treatment process, operational, and treatment reliability requirements. In addition, the State Water Resources Control Board has adopted Resolution No. 77-1, Policy with Respect to Water Reclamation in California. This policy states that the State Board and Regional Boards will consider and recommend for funding, water reclamation projects that do not impair water rights or beneficial instream uses. The Department of Health Services establishes the recycled water uses allowed in the State, and designates the level of treatment (i.e., un-disinfected secondary, disinfected secondary, or disinfected tertiary) required for each of these designated uses (Title 22, California Code of Regulations).

California Integrated Waste Management Act of 1989 (AB 939)

To minimize the amount of solid waste that must be disposed of by transformation and land disposal, the State Legislature passed Assembly Bill 939, the California Integrated Waste Management Act of 1989 (AB 939), effective January 1990. According to AB 939, all cities and counties in California are required to divert 25 percent of all solid waste to recycling facilities from landfill or transformation facilities by January 1, 1995, and 50 percent by January 1, 2000. California Integrated Waste Management Board's (CIWMB) Department of Resources Recycling and Recovery (now CalRecycle) is the State department designated to oversee, manage, and track California's 92 million tons of waste generated each year. As of 2006, the most recent year for which Board-reviewed rates are available, the City achieved a diversion rate of 70 percent.¹⁵

Solid waste plans are prepared by each jurisdiction to explain how each city's AB 939 plan is integrated with its county plan. The plans must promote in order of priority: source reduction, recycling and composting, and finally, environmentally safe transformation, and land disposal.

California Solid Waste Reuse and Recycling Act of 1991 (AS 1327)

The California Solid Waste Reuse and Recycling Access Act of 1991 (AB 1327) was passed, requiring the CIWMB to develop a model ordinance for adoption by local agencies relating to adequate areas for collecting and loading of recyclable materials in development projects.

Regional

Water Quality Control Plan for the San Francisco Bay Basin

The SFBRWQCB regulates water quality in San Francisco Bay under the Porter-Cologne Water Quality Control Act through regulatory standards and objectives in the Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan). The Basin Plan identifies existing and potential beneficial uses and provides numerical and narrative water quality objectives to protect those uses. The Basin Plan identifies

¹⁵ CalRecycle, Jurisdiction Profile for City of San Francisco, website: <http://www.calrecycle.ca.gov/Profiles/Juris/JurProfile2.asp?RG=C&JURID=438&JUR=San+Francisco>, accessed February 1, 2010.

the following existing beneficial uses for the San Francisco Bay: ocean, commercial and sport fishing; estuarine habitat; industrial service apply; fish migration; navigation; preservation of rare and endangered species; water contact recreation; non-contact water recreation; shellfish harvesting; and wildlife habitat. Pollutants that have been identified as causing impairments in San Francisco Bay include chlordane, DDT, diazinon, dieldrin, dioxin compounds, furan compounds, mercury, exotic species, and PCBs. The law requires the development of total maximum daily loads (TMDLs) to identify the maximum concentration of particular pollutants that will impair water quality and to identify pollution prevention, control, or restoration strategies. The SFBRWQCB has developed TMDL reports for pollutants including PCBs and mercury, and has proposed Basin Plan amendments regarding TMDL.

Local

San Francisco General Plan

The San Francisco General Plan provides general policies and objectives to guide land use decisions and development throughout the City. General Plan objectives and policies relevant to utilities and service systems are discussed in Section V.A (Plans and Policies) of this Draft EIR. General Plan objectives and policies discussed in this Section are as follows:

Community Safety Element

Objective 10: Locate wastewater facilities in a manner that will enhance the effective and efficient treatment of storm and wastewater.

Objective 11: Locate solid waste facilities in a manner that will enhance the effective and efficient treatment of solid waste.

San Francisco Green Building Ordinance (SFGBO)

In 2008, the City adopted Chapter 13C (Green Building Requirements) into San Francisco Building Code. The purpose of the requirements is to promote the health, safety, and welfare of San Francisco residents, workers, and visitors by minimizing the use and waste of energy, water and other resources in the construction and operation of the buildings within the City and by providing a healthy indoor environment. Upon full implementation of the SFGBO in 2012, residential development will be required to achieve the following minimum standards:

1. Small residential (four or fewer units) – 75 GreenPoints;
2. Mid-sized residential (five or more units less than 75 feet in height) – 75 GreenPoints; or
3. High-rise large residential – 75 GreenPoints or LEED® Silver.

The ordinance requires compliance with the applicable LEED® performance standards or GreenPoint Rated checklists (which applies mostly to residential buildings), LEED® for New Construction, Version 2.2, criteria Sustainable Sites (SS) credits SS6.1 and SS6.2 for stormwater management, as well as the

BMPs and Stormwater Design Guidelines of the SFPUC (1304C.0.3). Additionally, for high-rise residential buildings (1304C.1.3), new group B (Business) and M (Mercantile) occupancy buildings (1304C.2), and new large commercial buildings (1304C.2.2), water efficient landscaping (LEED® Water Efficiency (WE) credit WE1.1) and water conservation are required (LEED® WE3.2).

LEED® SS6.2 addresses stormwater management and has been adopted by the San Francisco Stormwater Design Guidelines for MS4s.¹⁶ The stormwater management program seeks to reduce impervious cover, promote infiltration, and capture and treat 90 percent of the runoff from an average annual rainfall event (for semi-arid watersheds; in San Francisco, treatment of 90 percent is interpreted as treating runoff produced by a rain event generating 0.75 inches) using acceptable BMPs. In addition, BMPs used to treat runoff must be capable of removing 80 percent of the average annual post development total suspended solid load contained in stormwater runoff. The BMPs are considered to meet these criteria if (1) they are designed in accordance with standards and specifications from a state or local program that has adopted these performance standards, or (2) there are filed performance monitoring data that demonstrate compliance with the criteria. LEED® WE1.1 addresses water efficient landscaping. New construction that is required to comply with this credit must submit documentation verifying a minimum of 50 percent reduction in use of potable water for landscaping (compared to the mid-summer baseline case). LEED® WE3.2 addresses water use reduction. Permit applicants must submit documentation demonstrating achievement of a minimum 20 percent reduction in the use of potable water. Effective January 1, 2011, the required reduction in use of water is 30 percent (compared to the water use baseline calculated for the building [not including irrigation] after meeting the US EPA Energy Policy Act of 1992 requirements).

The ordinance also requires that new development provide adequate areas for recycling, composting, and trash storage. Collection and loading, including any chute systems, must be designed for equal convenience for all users to separate those three material streams, and must provide space to accommodate a sufficient quantity and type of containers to be compatible with current methods of collection.

Green Landscaping Ordinance

The San Francisco Green Landscaping Ordinance was adopted on April 22, 2010 and applies to new development projects and projects involving significant alternation. It requires landscaping of publicly visible areas and rights-of-way including front yards, parking lot perimeters, and pedestrian walkways, as well as screening of parking and vehicular use areas. The Green Landscaping Ordinance also requires compliance with San Francisco Administrative Code Chapter 63, which applies to property owners requesting a new irrigation water service meter with a landscape area of 1,000 square feet or larger. The goals of the Green Landscaping Ordinance include the following:

¹⁶ An MS4 is a conveyance or system of conveyances that is owned by a state, city, town, village, or other public entity that discharges to waters of the U.S.; designed or used to collect or convey stormwater (including storm drains, pipes, ditches, etc.); not a combined sewer; and not part of a Publicly Owned Treatment Works (sewage treatment plant).

- Healthier and more plentiful plantings through screening, parking lot, and street tree controls;
- Increased permeability through front yard and parking lot controls;
- Encourage responsible water use through increasing “climate appropriate” plantings; and
- Improved screening by creating an ornamental fencing requirement and requiring screening for newly defined “vehicle use areas”.¹⁷

Sewer System Master Plan

San Francisco’s combined sewer system is overseen by a comprehensive master plan adopted approximately 40 years ago. The sewer system has operated well but aging infrastructure, funding constraints, and deferred maintenance have created the need for another long-term master plan. In 2005, the SFPUC initiated a new master plan to develop a long-term strategy for management of the City’s wastewater and stormwater, to provide a detailed roadmap for improvements needed over the next few decades and to estimate funds to implement these improvements, to address specific challenges facing the system, and to maximize system reliability and flexibility. The SFPUC is currently in the draft planning stage and has recently begun environmental review of the plan, which is expected to take about two years.

Stormwater Management Ordinance

The Stormwater Management Ordinance (Ordinance No. 83-10) was approved by the SFPUC and effective as of May 22nd, 2010.¹⁸ The Ordinance implements the City’s Stormwater Design Guidelines (Guidelines), adopted by the SFPUC on January 12, 2010, and includes the following provisions:

- Establishment of regulatory authority in the San Francisco Public Works Code for the Port Executive Director or his/her designee for specific activities related to stormwater management;
- Detail as to which types of projects are required to comply with the Guidelines;
- Requirements relating to the submittal of a Stormwater Control Plan for projects that must comply with the Guidelines;

¹⁷ San Francisco Public Utilities Commission, For Landscapes, website: http://sfwater.org/mto_main.cfm/MC_ID/13/MSC_ID/168/MTO_ID/758, June 21, 2010.

¹⁸ San Francisco Public Utilities Commission, Stormwater Design Guidelines, website: http://www.sfwater.org/mto_main.cfm/MC_ID/14/MSC_ID/361/MTO_ID/543, June 21, 2010.

- A summary of prohibited discharges to the SFPUC and Port stormwater collection systems;
- Detail regarding ongoing maintenance and inspection requirements for completed projects; and
- Provisions for enforcement and cost reimbursement for those projects which violate the Guidelines.¹⁹

Water Supply Availability Study

The San Francisco Planning Department and the San Francisco Redevelopment Agency are currently engaged in planning for various proposed land development projects throughout San Francisco that go beyond those future developments considered in the 2005 UWMP update. As a result of these new developments, the SFPUC concluded that its 2005 UWMP no longer accounted for every project requiring a Water Supply Assessment (WSA) within San Francisco. Therefore, during this interim period until the 2010 UWMP is prepared, any qualifying projects not accounted in the 2005 UWMP will require preparation of a WSA per Water Code Sections 10910 – 10915 that considers the SFPUC’s current and projected water supplies when compared to projected demands associated with new growth not covered in the 2005 UWMP. The Water Supply Availability Study was developed as an interim period study and follows the format of a WSA. The Study captures the most current water supply planning and demand information, analyzes the various projected change in water demands associated with each qualifying project within San Francisco, evaluates overall supply and demand, assesses the sufficiency of supply, and prepares a conclusion based on the analysis. Information from the Water Supply Availability Study is presented in the Environmental Setting discussion provided previously in this section.

Urban Water Management Plan

In an effort to streamline the water supply planning process within the City, the SFPUC adopted a resolution in 2002 and 2006 to allow for all development projects requiring a WSA under Water Code Section 10910 et seq. to rely solely on the adopted Urban Water Management Plan (UWMP) without having to go through the process of preparing individual WSAs. In accordance with the California Water Code 10610, also known as the Urban Water Management Planning Act (Act) of 1984, the City adopted an Urban Water Management Plan (UWMP) in 2006. The Act states that the UWMP must be updated every five years to identify short-term and long-term water demand management in order to meet growing water demands during normal, dry and multiple dry years. The UWMP provides information about the City’s responsibilities towards water supply and water recycling in the community including wastewater generation, collection, treatment, and disposal.

¹⁹ City and County of San Francisco, Stormwater Design Guidelines, website: <http://www.ci.sf.ca.us/>, June 21, 2010.

North Westside Basin Groundwater Management Plan

In April 2005, the SFPUC completed the Final Draft North Westside Basin Groundwater Management Plan, which identified opportunities for increasing groundwater production in San Francisco.

Water System Improvement Program

On October 30, 2008, SFPUC certified the Final Program EIR for the WSIP, a multiple year, system-wide capital improvements program. Many aspects of the WSIP are rooted in the 2000 Water Supply Master Plan and various water system vulnerability studies. The WSIP investigated the potential options of developing local water resources such as water recycling, groundwater, desalination and improved conservation to meet SFPUC purchase requests or demands.

San Francisco Public Works Code

Under Article 21 of the San Francisco Public Works Code, potable water shall not be used for soil compaction or dust control activities undertaken in conjunction with any construction or demolition project occurring within the boundaries of the City and County of San Francisco, unless permission is obtained from the City Water Department in accordance with Article 21 and all applicable Water Department policies and regulations. This provision is in response to California's drought condition. The Commission found that the use of high quality potable water for construction and demolition purposes in San Francisco is widespread and that the use of such water supplies is not necessary for many construction and demolition purposes. Non-potable water is available for such purposes from various sources, including wastewater reclamation facilities and permitted groundwater wells.

San Francisco Housing Code

The intent of Chapter 12A of the San Francisco Housing Code, also known as the Residential Water Conservation Ordinance, is to conserve existing water supplies by reducing the overall demand for water in residential buildings by requiring the installation of water conservation devices in all residential buildings, except for tourist hotels and motels, upon the occurrence of specific events such as when the building undergoes major improvements, when there is a meter conversion, when there is a condominium conversion, and when there is a transfer of title.

Recycled Water Master Plan

The SFPUC has developed the 2006 Recycled Water Master Plan to provide guidance for implementing recycled water projects in San Francisco. The Plan includes a citywide assessment of potential recycled water users. Recycled water use in the northeast and east side of San Francisco is being evaluated as part of the Sewer System Master Plan. The purpose of the Plan is to identify where and how San Francisco could most feasibly develop recycled water in the City and to provide a strategy for implementing the recycled water projects identified.

Ordinance No. 27-06

The City adopted an ordinance (No. 27-06) effective on July 1, 2006, that creates a mandatory program to maximize the recycling of mixed construction and demolition (C&D) debris. The Ordinance requires that mixed C&D debris must be transported off-site by a Registered Transporter and taken to a Registered Facility that can process and divert from landfill a minimum of 65 percent of the material generated from construction, demolition or remodeling projects. The SFGBO would require a 75 percent diversion of C&D material for some projects.

Mandatory Recycling and Composting Ordinance

Adopted in 2009, this ordinance amended the San Francisco Environment Code by adding Chapter 19, entitled “Mandatory Recycling and Composting Ordinance” and amending the San Francisco Public Works Code and the San Francisco Health Code. The purpose of the ordinance is to: 1) require all persons located in San Francisco to separate recyclables, compostables and landfilled trash and participate in recycling and composting programs; 2) provide enforcement mechanisms and penalties for violations; 3) ensure that all properties subscribe to refuse collection service; and 4) authorize a Department of Public Health inspection fee of \$167 per hour.

Zero Waste Goal

The City has adopted goals of 75 percent landfill diversion by 2010 and zero waste by 2020.²⁰ Currently, San Francisco recovers 72 percent of the materials it discards. The City is well on its way to meeting its diversion goals. Ultimately, the City will need to look beyond recycling and composting to get to zero waste, including passing legislation to increase producer and consumer responsibility.

Administrative Bulletin (AB-088)

This Administrative Bulletin provides standards and procedures for local implementation of the California Solid Waste Reuse and Recycling Access Act of 1991, and the related adopted Model Ordinance, which require that local jurisdictions enforce regulations to assure that adequate areas for collecting and loading for recyclable materials are provided in development projects. Under these regulations, cities are mandated to enforce requirements for certain new development projects and building alterations as detailed in AB-088.

²⁰ SF Environment, Zero Waste, website: http://www.sfenvironment.org/our_programs/overview.html?ssi=3, Accessed February 4, 2010.

IMPACTS

Significance Thresholds

The proposed Housing Elements would normally have a significant effect on the environment if they would:

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board;
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- Have insufficient water supply available to serve the project from existing entitlements and resources, or require new or expanded water supply resources or entitlements;
- Result in a determination by the wastewater treatment provider that would serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments;
- Be served by a landfill without sufficient permitted capacity to accommodate the project's solid waste disposal needs; or
- Would not comply with federal, state, and local statutes and regulations related to solid waste.

Impact Evaluation

As discussed previously, the 2004 Housing Element and 2009 Housing Elements would not change the land use objectives and policies in the City's area and redevelopment plans. According to Part I of the 2009 Housing Element (Data and Needs Analysis), the City has available capacity to meet the RHNA. Therefore, the rezoning of land uses is not required. To meet the City's share of the RHNA, the proposed Housing Elements aim to do the following: 1) preserve and upgrade existing housing units to ensure they do not become dilapidated, abandoned, or unsound, and 2) provide direction for how and where new housing development in the City should occur. With respect to the latter, the 2004 Housing Element encourages new housing in Downtown and in underutilized commercial and industrial areas. The 2004 Housing Element also encourages increased housing in neighborhood commercial districts and mixed-use districts near Downtown. The 2009 Housing Element encourages housing in new commercial or institutional projects and accommodating housing through existing community planning processes.

As previously stated, according to AB 939, all cities and counties in California are required to divert 25 percent of all solid waste to recycling facilities from landfill or transformation facilities by January 1,

1995, and 50 percent by January 1, 2000. As previously discussed, the City has adopted goals of 75 percent landfill diversion by 2010 and zero waste by 2020. San Francisco currently recovers 72 percent of the materials it discards. The City is well on its way to meeting its diversion goals. Ultimately, the City will need to look beyond recycling and composting to get to zero waste. In addition, the City has adopted Ordinance No. 27-06, Mandatory Recycling and Composting Ordinance, and AB-088. These regulations adopted by the City ensure it is exceeding the requirements of AB 939. Therefore, the 2004 Housing Element and 2009 Housing Element would have *no impact* related to compliance with solid waste statutes and regulations.

Impact UT-1: The proposed Housing Elements would not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board. (Less than Significant)

2004 Housing Element and 2009 Housing Element Analysis

The City requires NPDES permits, as administered by the SFBRWQCB, according to federal regulations for both point source discharges (a municipal or industrial discharge at a specific location or pipe) and nonpoint source discharges (diffuse runoff of water from adjacent land uses) to surface waters of the United States. For point source discharges, such as sewer outfalls, each NPDES permit contains limits on allowable concentrations and mass emissions of pollutants contained in the discharge. The 2004 Housing Element and 2009 Housing Element would not result in the construction of residential units, but would serve to guide how new residential development should occur. New construction would be required to comply with all provisions of the NPDES program, as enforced by the RWQCB. Therefore, the proposed Housing Elements would not directly result in an exceedance of wastewater treatment requirements. Additionally, the NPDES Phase I and Phase II requirements would regulate discharge from construction sites. All new development would be required to comply with all applicable wastewater discharge requirements issued by the State Water Resources Control Board (SWRCB) and RWQCB.

The SFPUC is currently developing a Sewer System Master Plan to address anticipated infrastructure issues, to meet anticipated regulatory requirements, as well as to accommodate planned growth. Projections for sewer service demand were assessed to 2030 to determine future population, flows, and loads based on 1) population information provided by ABAG and accepted by the Planning Department; 2) flows projected by the SFPUC based on water usage within the city; and 3) flows projected by the outside agencies that are discharging into San Francisco's sewer system based on agreements made with the U.S. EPA during the grants programs of the 1970s and 1980s. Furthermore, new development would not exceed applicable wastewater treatment requirements of the RWQCB with respect to discharges to the sewer system or stormwater system within the City. Therefore, the 2004 Housing Element and 2009 Housing Element would have a *less than significant* impact with respect to the exceedance of wastewater treatment requirements.

Impact UT-2: The proposed Housing Elements would not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects, and would not result in a determination by the wastewater treatment provider that serves the project that it has inadequate capacity to serve the City's projected demand.

New construction could result in impacts related to water or wastewater treatment facilities if new housing would result in additional need for water or wastewater treatment in areas that do not have the available capacity to transport or process the additional water or wastewater. This could require the construction or expansion of water or wastewater treatment facilities. As discussed previously, the proposed Housing Elements do not propose new development. They are policy-level documents intended to guide how and where new residential development in the City should occur. For example, new housing could result in density changes or the introduction of residential uses in previously industrial or commercial areas, which could result in a need for different types and levels of water or wastewater treatment. Generally, residential uses use less water (and generate less wastewater) than industrial or commercial uses and single-family housing uses more water (and generates more wastewater) than multi-family housing. Therefore, it is likely that the conversion of industrial and commercial uses to residential uses and the construction of multi-family housing instead of single-family housing would reduce the demand on water or wastewater treatment facilities.

2004 Housing Element Analysis

The following 2004 Housing Element implementation measure could result in an increased demand on water or wastewater treatment facilities by promoting residential uses on undeveloped or underdeveloped sites.

Impact	2004 Housing Element	Corresponding 1990 Residence Element Policy
Direct growth to underutilized or undeveloped sites.	Implementation Measure 4.1.4: The City will work to identify underutilized, vacant, and Brownfield sites that are publicly or privately owned and suitable for affordable housing development. The City will work with for profit and non-profit housing developers to acquire these sites for permanently affordable housing.	Implementation Measure 1.1.1: Aggressive pursuit of development opportunities [on] underused public sites. Implementation Measure 1.1.4: In-fill housing on vacant or underused sites.

2004 Housing Element Implementation Measure 4.1.4 promotes housing on underutilized, vacant, surplus lands and on Brownfield sites. Residential uses on undeveloped or underdeveloped sites could result in an increased demand on water or wastewater treatment facilities.

The following 2004 Housing Element policies could reduce the 2004 Housing Element’s effects on demand for water or wastewater treatment facilities or a determination that the wastewater treatment provider does not have adequate service capacity by promoting increased density, residential uses on previous commercial and industrial sites, locating houses in residential neighborhoods, ensuring adequate public services, and including energy efficient features in new housing.

Impact	2004 Housing Element	Corresponding 1990 Residence Element Policy
<p>Direct growth to certain areas of the City.</p>	<p>Policy 1.1: Encourage higher residential density in areas adjacent to downtown, in underutilized commercial and industrial areas proposed for conversion to housing and in neighborhood commercial districts where higher density will not have harmful effects, especially if the higher density provides a significant number of units that are affordable to lower income households. Set allowable densities in established residential areas at levels which will promote compatibility with prevailing neighborhood scale and character where there is neighborhood support.</p>	<p>Policy 2.1: Set allowable densities in established residential areas at levels which will promote compatibility with prevailing neighborhood character.</p> <p>Policy 2.2: Encourage higher residential density in areas adjacent to downtown, in underutilized commercial and industrial areas proposed for conversion to housing and in neighborhood commercial districts where higher density will not have harmful effects, especially if the higher density provides a significant number of units that are permanently affordable to lower income households.</p>
	<p>Implementation Measure 1.1.1: A Citywide action plan (CAP) should provide a comprehensive framework for the allocation of higher density, mixed-use residential development in transit-rich areas with stable urban amenities in place. In these areas, specific CAP strategies should include: higher densities and reduced parking requirements in downtown areas or through a Better Neighborhoods type planning process; pedestrian-oriented improvements to enhance the attractiveness and use of transit.</p>	
	<p>Policy 1.2: Encourage housing development, particularly affordable housing, in neighborhood commercial areas without displacing existing jobs, particularly blue-collar jobs or discouraging new employment opportunities.</p>	

Impact	2004 Housing Element	Corresponding 1990 Residence Element Policy
	Implementation Measure 1.2.1: The Planning Department will develop proposals in neighborhood commercial districts (NCDs) well served by transit to strengthen their functions as a traditional “town center” for the surrounding residential districts.	
	Policy 1.3: Identify opportunities for housing and mixed-use districts near downtown and former industrial portions of the City.	Policy 1.2: Facilitate the conversion of underused industrial and commercial areas to residential use, giving preference to permanently affordable housing uses.
	Implementation Measure 1.3.2: The Planning Department will introduce zoning changes in the traditionally industrial eastern parts of the City. The areas under study are: Mission, South of Market, Showplace Square/Potrero Hill, Bayview Hunter’s Point, and Visitacion Valley. Housing, especially affordable housing, will be encouraged in former industrial areas where residential neighborhoods are established and urban amenities are in place or feasible.	
	Policy 1.6: Create incentives for the inclusion of housing, particularly permanently affordable housing, in new commercial development projects.	
	Implementation Measure 2.4.2: As part of the Planning Department’s current citywide action plan, planning efforts in the eastern neighborhoods of the City, where housing exists in commercial and industrially zoned districts, should address housing retention as new policies and zoning are established. Mixed use should be encouraged where appropriate.	

Impact	2004 Housing Element	Corresponding 1990 Residence Element Policy
	<p>Implementation Measure 4.1.4: The City will work to identify underutilized, vacant, and Brownfield sites that are publicly or privately owned and suitable for affordable housing development. TH City will work with for profit and non-profit housing developers to acquire these sites for permanently affordable housing.</p>	<p>Implementation Measure 1.1.1: Aggressive pursuit of development opportunities [on] underused public sites.</p> <p>Implementation Measure 1.1.4: In-fill housing on vacant or underused sites.</p>
<p>Promote increased density-related development standards</p>	<p>Policy 1.1: Encourage higher residential density in areas adjacent to downtown, in underutilized commercial and industrial areas proposed for conversion to housing and in neighborhood commercial districts where higher density will not have harmful effects, especially if the higher density provides a significant number of units that are affordable to lower income households. Set allowable densities in established residential areas at levels which will promote compatibility with prevailing neighborhood scale and character where there is neighborhood support.</p>	<p>Policy 2.1: Set allowable densities in established residential areas at levels which will promote compatibility with prevailing neighborhood character.</p> <p>Policy 2.2: Encourage higher residential density in areas adjacent to downtown, in underutilized commercial and industrial areas proposed for conversion to housing and in neighborhood commercial districts where higher density will not have harmful effects, especially if the higher density provides a significant number of units that are permanently affordable to lower income households.</p>
	<p>Implementation Measure 1.1.1: A Citywide action plan (CAP) should provide a comprehensive framework for the allocation of higher density, mixed-use residential development in transit-rich areas with stable urban amenities in place. In these areas, specific CAP strategies should include: higher densities and reduced parking requirements in downtown areas or through a Better Neighborhoods type planning process; pedestrian-oriented improvements to enhance the attractiveness and use of transit.</p>	

Impact	2004 Housing Element	Corresponding 1990 Residence Element Policy
	<p>Implementation Measure 1.3.1: Downtown areas and areas subject to a Better Neighborhoods type planning process will be expected to absorb major office and residential developments over the next decade. Planning and zoning code changes should include floor-to-area ratio exemptions. These development bonuses would be conferred only in cases where in return the development will provide major public benefits to the community.</p>	<p>Implementation Measure 1.1.3: Inclusion of housing in Downtown (allowing housing to exceed permitted Floor-Area-Ratios [FARs] in C-3-G and C-3-S Districts).</p>
	<p>Policy 1.6: Create incentives for the inclusion of housing, particularly permanently affordable housing, in new commercial development projects.</p>	<p>Policy 1.3: Create incentives for the inclusion of housing, particularly permanently affordable housing, in new commercial development projects.</p>
	<p>Implementation Measure 1.6.2: The Planning Department and the Redevelopment Agency will propose increasing height limits, eliminating density requirements and modifying off-street parking requirements in the Transbay/Rincon Hill Redevelopment survey areas. The Mid-Market redevelopment survey area will be rezoning to include mixed-use residential areas and reduced residential parking requirements.</p>	
	<p>Policy 1.7: Encourage and support the construction of quality, new family housing.</p>	

Impact	2004 Housing Element	Corresponding 1990 Residence Element Policy
	<p>Implementation Measure 1.7.1: In response to the increasing number of families in San Francisco, the Planning Department will develop zoning amendments to require a minimum percentage of larger family units ranging from two to four bedrooms, in new major residential projects. The Planning Department will also propose eliminating density requirements within permitted building envelopes in downtown areas and areas subject to a Better Neighborhoods type planning process to maximize family units constructed.</p>	
	<p>Policy 1.8: Allow new secondary units in areas where their effects can be dealt with and there is neighborhood support, especially if that housing is made permanently affordable to lower income households.</p>	<p>Policy 1.5: Allow new secondary units in areas where their effects can be dealt with and there is neighborhood support, especially if that housing is made permanently affordable to lower income households.</p>
	<p>Implementation Measure 1.8.1: The Board of Supervisors has introduced Planning Code amendments to allow secondary units in new buildings that are in close proximity to neighborhood commercial districts and public transit.</p>	
	<p>Implementation Measure 1.8.3: On-going planning will propose Planning Code amendments to encourage secondary units where appropriate.</p>	
	<p>Policy 4.4: Consider granting density bonuses and parking requirement exemptions for the construction of affordable housing or senior housing.</p>	<p>Policy 7.3: Grant density bonuses for construction of affordable or senior housing.</p>

Impact	2004 Housing Element	Corresponding 1990 Residence Element Policy
	<p>Implementation Measure 4.4.1: The Planning Department will look at establishing uniform density bonus standards and equal requirements for affordable and senior housing development. Until then, affordable and senior housing will continue to be granted density bonuses and reduced parking requirements on a case-by-case basis.</p>	
	<p>Policy 4.5: Allow greater flexibility in the number and size of units within established building envelopes, potentially increasing the number of affordable units in multi-family structures.</p>	<p>Policy 2.3: Allow flexibility in the number and size of units within permitted volumes of larger multi unit structures, especially if the flexibility results in creation of a significant number of dwelling units that are permanently affordable to lower income households.</p>
	<p>Policy 11.6: Employ flexible land use controls in residential areas that can regulate inappropriately sized development in new neighborhoods, in downtown areas, and in other areas through a Better Neighborhoods type planning process while maximizing the opportunity for housing near transit.</p>	<p>Policy 12.5 Relate land use controls to the appropriate scale for new and existing residential areas.</p>
	<p>Implementation Measure 11.6.1: The City will continue to promote increased residential densities in areas well served by transit and neighborhood compatible development with the support and input from local neighborhoods.</p>	
	<p>Policy 11.7: Where there is neighborhood support, reduce or remove minimum parking requirements for housing, increasing the amount of lot area available for housing units.</p>	
	<p>Implementation Measure 11.7.1: The Planning Department will work to reduce parking in older neighborhoods through a Better Neighborhoods type planning process with the support and input from local neighborhoods.</p>	

Impact	2004 Housing Element	Corresponding 1990 Residence Element Policy
	<p>Policy 11.8: Strongly encourage project sponsors to take full advantage of allowable building densities in their housing developments while remaining consistent with neighborhood character.</p>	
	<p>Policy 11.9: Set allowable densities and parking standards in residential areas at levels that promote the City’s overall housing objectives while respecting neighborhood scale and character.</p>	<p>Policy 2.1: Set allowable densities in established residential areas at levels which will promote compatibility with prevailing neighborhood character.</p>
<p>Promote housing in established neighborhoods, which likely have adequate existing levels and types of wastewater treatment capacity.</p>	<p>Policy 1.4: Locate in-fill housing on appropriate sites in established residential neighborhoods.</p>	<p>Policy 1.4: Locate infill housing on appropriate sites in established neighborhoods.</p>
<p>Ensure housing is provided with adequate public services, including water and wastewater treatment service.</p>	<p>Policy 11.2: Ensure housing is provided with adequate public improvements, services, and amenities.</p>	<p>Policy 12.1: Assure housing is provided with adequate public improvements, services and amenities.</p>
<p>Including energy efficient features, such as low-flow toilets and faucets, in new housing could reduce the demand for water and wastewater treatment.</p>	<p>Policy 11.10: Include energy efficient features in new residential development and encourage weatherization in existing housing to reduce overall housing costs and the long-range cost of maintenance.</p>	<p>Policy 7.5: Encourage energy efficiency in new residential development and weatherization in existing housing to reduce overall housing cost.</p>

As shown above, the 2004 Housing Element promotes housing in commercial (Policies 1.1, 1.6) and industrial (Policies 1.1, 1.3) areas. The 2004 Housing Element also promotes increased density in certain areas of the City (Policy 1.1 and Implementation Measure 1.1.1, 1.8.1 and 11.6.1) and promotes density bonuses (Policy 4.4 and Implementation Measures 1.3.1 and 4.4.1) and the elimination of density requirements (Policy 1.6 and Implementation Measures 1.6.2 and 1.7.1). The 2004 Housing Element also encourages increased density by promoting reduced parking requirements (Policies 4.4, 11.7, 11.9 and

Implementation Measures 1.1.1, 1.6.2, 4.4.1, 11.7.1), support for secondary units (Policy 1.8 and Implementation Measures 1.8.1 and 1.8.3) and flexible building envelopes (Policies 4.5 and 11.6).

Measures that encourage housing density could be partially achieved by the construction of multi-family housing, which uses less water than single-family housing. For example, multi-family housing may result in less landscaping area that requires irrigation. Single-family housing typically has both front and rear setbacks that are normally landscaped and require irrigation water for maintenance. Multi-family units may also have landscaped front and rear areas for open space, but typically less area per unit than single-family housing. Therefore, an increase in multi-family housing would reduce the need for new or expanded water and sew hookups.

As shown above, the 2004 Housing Element proposes policies (see Policy 1.2 and Implementation Measure 1.3.2) that promote housing construction in industrial and commercial areas to a greater extent than the 1990 Residence Element. 2004 Housing Element Policies 1.1 and 1.3 are essentially the same as their corresponding 1990 Residence Element policies and would not represent a policy shift. However, the implementation measures associated with 2004 Housing Element Policy 1.3 are area specific, including Implementation Measure 1.3.2, and could result in greater environmental impacts than the 1990 Residence Element. Zoning changes would require additional environmental review to study the effects of the proposed zoning changes for each of the area plans.

As shown above, the 2004 Housing Element proposes policies that promote housing in established residential neighborhoods and require energy efficient features to the same degree as the 1990 Residence Element. 2004 Housing Element Policies 1.4, 11.2, and 11.10 are essentially the same as their corresponding 1990 Residence Element policies and would not represent a policy shift. Development of new housing in established residential neighborhoods could also reduce the effects of new residential development on the potential for the wastewater treatment provider to have inadequate capacity by ensuring housing is located in areas where an adequate type and level of wastewater capacity service is likely to already exist. The inclusion of energy efficient features, such as low-flow toilets and faucets, in new housing could also reduce the 2004 Housing Element's effects on the potential need for new or altered water or wastewater treatment facilities by reducing the amount of water used, and therefore reducing the demand for water and wastewater treatment. Essentially both the 1990 Residence Element and 2004 Housing Element recognize the need for housing in established neighborhoods, the provision of adequate public services, and the inclusion of energy efficient features, and therefore do not represent a shift in policy.

Although the 2004 Housing Element would not result in the construction of residential units, it would shape how new residential development should occur and ensures that there is adequate land available to meet future housing needs. Potential impacts related to water and wastewater treatment would be offset by compliance with the previously discussed regulations, including Article 4.1 of the San Francisco Public Works Code and the City's industrial waste pretreatment program to regulate the discharge of pollutants into the sewage system, Water Quality Protection Program, the City's Stormwater Management Plan, and the City's Construction Site Runoff Pollution Prevention Program requirements. The SFPUC's Recycled Water Master Plan would provide guidance for implementing recycled water projects, which

would also reduce the need for water and wastewater treatment. Additional regulations that would reduce the demand of new development on water and wastewater facilities include compliance with the City’s NPDES permits related to construction activities as administered by the SFBRWQCB and Article 4 of the Porter-Cologne Water Quality Act, compliance with the Combined Sewer Overflow Control Policy and TMDL standards as set forth by the Basin Plan. The City’s Green Building Ordinance addresses stormwater management by seeking to reduce impervious cover, promote infiltration, and capture and treat 90 percent of the runoff from an average annual rainfall event using acceptable BMPs. Furthermore, the 2004 Housing Element does not represent a shift in policy with respect to the promotion of housing construction on undeveloped sites, recognizing the need for housing in established neighborhoods, the provision of adequate public services, and the inclusion of energy efficient features in housing. Therefore, the 2004 Housing Element would have a *less than significant* impact with respect to the need for the construction or expansion of water or wastewater treatment facilities and the potential to result in a determination by the wastewater treatment provider that it has inadequate capacity to serve the City’s projected demand.

2009 Housing Element

The following 2009 Housing Element policies could result in an increased demand on water or wastewater treatment facilities by promoting the intensification of uses on undeveloped or underdeveloped sites.

Impact	2009 Housing Element	Corresponding 1990 Residence Element
Promote new housing construction on undeveloped sites, potentially resulting in an increased demand for water and wastewater treatment of those sites due to the intensification of uses.	Policy 1.3: Work proactively to identify and secure opportunity sites for permanently affordable housing.	Policy 7.1: Create more housing opportunity sites for permanently affordable housing. Policy 1.1: Promote development of permanently affordable housing on surplus, underused and vacant public lands.
	Implementation Measure 3: All agencies subject to the Surplus Property Ordinance, San Francisco’s Administrative Code sections 23A.9-11, shall annually report on the availability of surplus property to the Department of real estate and the Assessor’s Office, for use by the MOH in the MOH’s continuing evaluation of surplus land for suitability for affordable housing development potential. To the extent that land is not suitable for housing development, the City should sell surplus property and use the proceeds for affordable housing	

Impact	2009 Housing Element	Corresponding 1990 Residence Element
	development for homeless people consistent with the Surplus Property Ordinance.	
	Implementation Measure 4: MOH shall continue to actively pursue surplus or underused publicly-owned land for housing potential, working with agencies not subject to the Surplus Property Ordinance such as the SFPUC, SFUSD and MTA to identify site opportunities. City agencies shall continue to survey their properties for affordable housing opportunities or joint use potential.	
Promote increased density-related development standards	Policy 1.4: Ensure changes to land use controls are proposed through neighborhood-supported community planning processes.	<p>Policy 2.1: Set allowable densities in established residential areas at levels which will promote compatibility with prevailing neighborhood character.</p> <p>Policy 2.2: Encourage higher residential density in areas adjacent to downtown, in underutilized commercial and industrial areas proposed for conversion to housing and in neighborhood commercial districts where higher density will not have harmful effects, especially if the higher density provides a significant number of units that are permanently affordable to lower income households.</p>
	Policy 1.5: Consider secondary units in community plans where there is neighborhood support and when other neighborhood goals can be achieved, especially if that housing is made permanently affordable to lower-income households.	Policy 1.5: Allow new secondary units in areas where their effects can be dealt with and there is neighborhood support, especially if that housing is made permanently affordable to lower income households.
	Policy 1.6: Consider greater flexibility in number and size of units within established building envelopes in community plan	Implementation Measure 1.1.3: Inclusion of housing in Downtown (allowing housing to exceed permitted Floor-Area-Ratios

Impact	2009 Housing Element	Corresponding 1990 Residence Element
	areas, especially if it can increase the number of affordable units in multi-family structures.	[FARs] in C-3-G and C-3-S Districts).
	Policy 7.5: Encourage the production of affordable housing through process and zoning accommodations, and prioritize affordable housing in the review and approval processes.	Policy 7.3: Grant density bonuses for construction of affordable or senior housing.
	Policy 11.4: Maintain allowable densities in established residential areas at levels which promote compatibility with prevailing neighborhood character.	Policy 2.1: Set allowable densities in established residential areas at levels which will promote compatibility with prevailing neighborhood scale and character.
	Implementation Measure 12: Planning shall require integration of new technologies that reduce the space required for non-housing functions, such as parking, and shall consider requiring parking lifts to be supplied in all new housing developments seeking approval for parking at a ratio of 1:1 or above.	
	Implementation Measure 13: When considering legalization of secondary units within community planning processes, Planning shall develop a Design Manual that illustrates how secondary units can be developed to be sensitive to the surrounding neighborhood, to ensure neighborhood character is maintained.	
	Implementation Measure 36: Planning shall continue to implement Planning Code Section 209, which allows a density bonus of twice the number of dwelling units otherwise permitted as a principal use in the district, when the housing is specifically designed for and occupied by senior citizens, physically or mentally disabled	Policy 7.3: Grant density bonuses for construction of affordable or senior housing.

Impact	2009 Housing Element	Corresponding 1990 Residence Element
	persons.	
	Strategy for further review: MOH and Planning should continue to consider, within the context of a community planning process, zoning categories which require a higher proportion of affordable housing where increased density or other benefits are granted. Options include Affordable Housing Only Zones (SLI); Affordable Housing Priority Zones (UMU) or Special Use District Opportunities.	
	Implementation Measure 64: Planning staff shall support affordable housing projects in the development review process, including allowing sponsors of permanently affordable housing to take advantage of allowable densities provided their projects are consistent with neighborhood character.	
	Implementation Measure 79: Planning staff shall continue to use community planning processes to develop policies, zoning and standards that are tailored to neighborhood character.	Implementation Measure 2.2.1: Densities compatible with neighborhood character.

As shown above, 2009 Housing Element promotes development on undeveloped sites to a greater extent than the 1990 Residence Element by using stronger language and providing a list of opportunity sites, one of which is undeveloped. The 2009 Housing Element generally promotes increased density through community planning processes (Policies 1.4, 1.5, 1.6, and Implementation Measures 13 and 79) and for affordable housing (Policy 7.5 and Implementation Measures 36 and 64). The 2009 Housing Element also includes a strategy designed to reduce the amount of space required for non-housing functions (Implementation Measure 12). While the 2009 Housing Element contains a policy that advocates for family-sized housing units (Policy 4.1 and Implementation Measure 32), overall density increases from such policy would be speculative as less units would be accommodated within a given building envelope.

2009 Housing Element Policy 1.2 directs the City to use the current state of the economy as an opportunity to pursue available land for affordable housing, providing stronger direction than 1990

Residence Element Policies 7.1 and 1.1. 2009 Housing Element Implementation Measures 3 and 4 address ongoing programs that would continue irrespective of the 2009 Housing Element. Part I of the 2009 Housing Element lists opportunity sites on public lands where future housing might be possible. Most of these sites are already developed; however the Balboa reservoir site is undeveloped and the intensification of uses on this site could require additional sewer and water hookups, thereby increasing demand for water and wastewater treatment. would promote new housing construction on undeveloped sites to a greater extent than the 1990 Residence Element and could result in an increased demand on water or wastewater treatment facilities.

Overall, the 1990 Residence Element promotes increased density on a broader, citywide, scale to a greater extent than the 2009 Housing Element. However, there are three areas under which the 2009 Housing Element promotes greater density than the 1990 Residence Element. These include the following themes: increasing density near transit; construction of affordable housing; and development through the community planning process. The density-related 2009 Housing Element policies could potentially result in the construction of multi-family housing, which uses less water than single-family housing.

The following 2009 Housing Element policies could reduce the 2009 Housing Element's effects related to water or wastewater treatment facilities by identifying suitable housing sites, considering neighborhood service availability for new housing, ensuring sustainable water and wastewater infrastructure capacity, and encouraging water conservation measures for new housing.

Impact	2009 Housing Element	Corresponding 1990 Residence Element
Increased density and housing construction near transit, potentially resulting in a reduced need for water or wastewater treatment.	Policy 1.5: Support new housing projects on sites that are located close to major transit lines.	Policy 1.4: Locate infill housing on appropriate sites in established neighborhoods.
	Policy 12.1: Promote new housing that is located in close proximity to transportation infrastructure, to promote transit use and environmentally sustainable patterns of movement.	Policy 12.1: Assure housing is provided with adequate public improvements, services and amenities.
	Policy 13.1: Support "smart" regional growth that locates new housing close to jobs and transit.	Policy 16.1: Encourage the balancing of regional employment growth with the development and growth of affordable housing in the region.
	Policy 13.3: Promote sustainable land use patterns that integrate land use and transportation to increase transit, pedestrian and bicycle trips.	
	IM 89: Planning and SFMTA shall coordinate housing development with the ongoing Transit Effectiveness Project.	

Impact	2009 Housing Element	Corresponding 1990 Residence Element
Increased density and construction of affordable housing, potentially resulting in a reduced need for water or wastewater treatment.	Policy 1.2: Work proactively to identify and secure opportunity sites for permanently affordable housing.	Policy 7.1: Create more housing opportunity sites for permanently affordable housing. Policy 1.1: Promote development of permanently affordable housing on surplus, underused and vacant public lands
	Policy 1.7: Include housing, particularly permanently affordable housing, in new commercial, institutional or other single use development projects.	Policy 1.7: Obtain assistance from office developments and higher educational institutions in meeting the housing demand they generate, particularly the need for affordable housing for lower income workers and students. Policy 1.3: Create incentives for the inclusion of housing, including permanently affordable housing including commercial development.
	Policy 7.5: Encourage the production of affordable housing through process and zoning accommodations, and prioritize affordable housing in the review and approval process.	Policy 6.3: Improve the planning review and approval process and give priority to permanently affordable housing projects. Policy 7.3: Grant density bonuses for construction of affordable or senior housing.
Increased density in certain planning areas, potentially resulting in a reduced need for water or wastewater treatment in these areas.	Policy 1.1: Plan for the full range of existing and projected housing needs in the City and County of San Francisco.	
	Policy 1.3: Continue community planning processes to plan for housing growth.	
	Policy 1.4: Through community planning processes, establish land use controls that support efficient use of land.	Policy 1.5: Allow new secondary units in areas where their effects can be dealt with and there is neighborhood support, especially if that housing is made permanently affordable.
Ensure sustainable water and sewer infrastructure and capacity is available to new housing.	Policy 12.3: Ensure new housing is sustainably supported by the City's public infrastructure systems.	Policy 12.1: Assure housing is provided with adequate public improvements, services and amenities.

Impact	2009 Housing Element	Corresponding 1990 Residence Element
Encourage the use of “green” non-point source control devices to reduce and filter runoff from project sites and promote other water and wastewater reduction measures.	Policy 13.4: Promote the highest feasible level of “green” development in both private and municipally-supported housing.	Policy 7.5: Encourage energy efficiency in new residential development and weatherization in existing housing to reduce overall housing costs.
Continued implementation of the City’s Green Building Ordinance by the SFPUC.	Implementation Measure 92: The PUC will continue to implement conservation regulations and incentives such as the City’s Green Building Ordinance and the Stormwater Design Guidelines.	
Continued implementation of the City’s Green Building Ordinance and other incentive programs for green upgrades.	Implementation Measure 102: DBI, Planning and the Department of the Environment shall continue to implement the City’s Green Building Ordinance; and the Department of the Environment, the PUC and DBI shall continue local and state incentive programs for green upgrades.	

As shown above, some policies in the 2009 Housing Element could promote density near transit, increased density for affordable housing projects, and increased density through the community planning process to a greater degree than the 1990 Residence Element. Therefore, the 2009 Housing Element promotes the construction of multi-family housing, which uses less water than single-family housing. An increase in multi-family housing would reduce the need for new or expanded water and sewer hookups. Overall, the 1990 Residence Element promotes increased density on a broader Citywide scale to a greater extent than the 2009 Housing Element. Because the 1990 Residence Element promotes increased density more generally throughout the City, the 1990 Residence Element has greater potential to encourage multi-family housing than the 2009 Housing Element. Therefore, the 2009 Housing Element could increase the demand on water and wastewater facilities more so than the 1990 Residence Element.

As shown above, both the 1990 Residence Element and the 2009 Housing Element recognize the need ensure the City has adequate water and wastewater service capacity for its existing and future residents. Planning for projected housing needs could reduce the 2009 Housing Element’s effects on the potential need for new or altered wastewater treatment facilities by ensuring housing is placed in areas with proper water and sewer infrastructure and treatment service capacity. 2009 Housing Element Policy 12.3 is similar to 1990 Residence Element Policy 12.1, though it specifically ensures new housing is supported by sustainable sewer systems through the collection of connection and rate increases. Essentially both the 1990 Residence Element and 2009 Housing Element recognize the need for considering infrastructure

planning when developing new housing, ensuring sustainable water and wastewater infrastructure capacity, and water conservation measures in housing, and therefore do not represent a shift in policy.

2009 Housing Element Policy 13.4 encourages “green” development, including energy efficient features, such as low-flow toilets and faucets. These features could reduce the 2009 Housing Element’s effects on the potential need for new or altered water or wastewater treatment facilities by reducing the amount of water used, and therefore reducing the demand for water and the amount of wastewater generated. Policy 13.4 also calls for preservation of existing buildings, which represents an environmental benefit in terms of runoff filtration and wastewater reduction associated with demolition and new construction. The SFPUC, DBI, Planning Department, and Department of the Environment would continue to implement the SFGBO and other programs with or without 2009 Housing Element Implementation Measures 92 and 102; therefore, these implementation measures do not represent a substantial shift in policy from the 1990 Residence Element.

Potential impacts related to water and wastewater treatment would be offset by compliance with the previously discussed regulations, including Article 4.1 of the San Francisco Public Works Code and the City’s industrial waste pretreatment program to regulate the discharge of pollutants into the sewage system, Water Quality Protection Program, the City’s Stormwater Management Plan, and the City’s Construction Site Runoff Pollution Prevention Program requirements. The SFPUC’s Recycled Water Master Plan would provide guidance for implementing recycled water projects, which would also reduce the need for water and wastewater treatment. Additional regulations that would reduce the demand of new development on water and wastewater facilities include compliance with the City’s NPDES permits related to construction activities as administered by the SFBRWQCB and Article 4 of the Porter-Cologne Water Quality Act, compliance with the Combined Sewer Overflow Control Policy and TMDL standards as set forth by the Basin Plan. The SFGBO addresses stormwater management by seeking to reduce impervious cover, promote infiltration, and capture and treat 90 percent of the runoff from an average annual rainfall event using acceptable BMPs.

Although the 2009 Housing Element would not result in the construction of residential units, all new development would be required to comply with the previously discussed regulations. The policies promoted by the 2009 Housing Element do not represent a major shift in policy compared to the 1990 Residence Element such that significant impacts related to water/wastewater systems would occur. Therefore, the 2009 Housing Element would have a *less than significant* impact with respect to the need for the construction or expansion of water or wastewater treatment facilities and the potential to result in a determination by the treatment provider that it has inadequate capacity to serve the City’s projected demand.

Impact UT-3: The proposed Housing Elements would not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. (Less than Significant)

New construction could result in impacts related to stormwater drainage facilities if new housing would result in demand in areas that do not have the available capacity to accommodate additional stormwater runoff, thereby requiring the construction or expansion of stormwater drainage facilities. For example,

development of new housing could result in an increase in impervious surfaces, which could increase runoff into stormwater drainage facilities. In addition, new housing could result in the construction of residential uses on undeveloped sites, which would increase impervious surfaces and increasing stormwater runoff.

2004 Housing Element

As discussed under Impact UT-2, the 2004 Housing Element would promote housing construction on undeveloped sites to an extent similar to the 1990 Residence Element and would result in a similar increase in impervious surfaces and increased stormwater runoff. A key strategy for meeting the City's housing goals is to maintain the City's existing housing stock. The following 2004 Housing Element policies could reduce the 2004 Housing Element's effects on the potential need for the construction or expansion of stormwater drainage facilities by discouraging demolition of existing housing units.

Impact	2004 Housing Element	Corresponding 1990 Residence Element Policy
Discourage demolition and improve existing housing supply.	Policy 2.1: Discourage the demolition of sound existing housing.	Policy 3.1: Discourage the demolition of sound existing housing.
	Policy 3.3: Maintain and improve the condition of the existing supply of public housing.	Policy 5.4: Maintain and improve the existing supply of public housing.
Promote preservation of residential buildings.	Policy 3.6: Preserve landmark historic residential buildings.	Policy 5.5: Preserve landmark historic residential buildings.
	Implementation Measure 3.6.6: The Planning Department will encourage property owners to use preservation incentives to repair, restore, or rehabilitate historic resources in lieu of demolition. These include federal tax credits for rehabilitation of qualified historical resources, Mills Act property tax abatement programs, the State Historic Building Code, and tax deductions for preservation easements.	

As shown above, the 2004 Housing Element proposes policies that discourage demolition and promote the maintenance of existing public housing (including Policies 2.1, 3.3, and 3.6) to a degree similar to the 1990 Residence Element. The preservation of existing housing would result in a reduced potential to increase impervious surfaces on a specific site, thereby reducing the potential need for new or altered stormwater drainage facilities by reducing demolition and new construction, which could increase impervious surfaces (such as parking areas). Furthermore, as discussed under Impact UT-2, the 2004

Housing Element also contains Policies 1.4 and 11.2, which could reduce the 2004 Housing Element's effects on the potential need for the construction or expansion of stormwater drainage facilities by promoting housing in established residential neighborhoods where infrastructure is likely to already exist and ensuring that housing is provided with adequate public improvements, including stormwater drainage.

Although the 2004 Housing Element would not result in the construction of residential units, it would shape how new residential development should occur and ensures that there is adequate land available to meet future housing needs. Potential impacts related to stormwater facilities would be offset by compliance with the previously discussed regulations and plans, including the City's Stormwater Management Plan, the City's Construction Site Runoff Pollution Prevention Program requirements, the stormwater design requirement of the SFGBO, NPDES permits related to construction activities as administered by the SFBRWQCB and Article 4 of the Porter-Cologne Water Quality Act, and the Combined Sewer Overflow Control Policy. Compliance with the SFGBO would reduce the amount of impervious surfaces and treat 90 percent of stormwater. The SFPUC's Recycled Water Master Plan provides a strategy for implementing recycled water projects, which could also reduce the need for stormwater drainage by potentially capturing stormwater onsite. Therefore, the 2004 Housing Element would have a *less than significant* impact with respect to the need for the construction or expansion of stormwater drainage facilities.

2009 Housing Element

As discussed under Impact UT-2, the 2009 Housing Element proposes policies (see Policy 1.2 and Implementation Measures 3 and 4) that promote development on undeveloped sites to a greater extent than the 1990 Residence Element. The intensification of uses on undeveloped sites could increase impervious surfaces, potentially creating more runoff and need for stormwater drainage facilities. Therefore, the 2004 Housing Element would promote housing construction on undeveloped sites to a greater extent than the 1990 Residence Element and could result in a slightly greater need for stormwater drainage facilities.

Similar to the 2004 Housing Element, major themes of the 2009 Housing Element include the preservation and maintenance of existing housing. The following 2009 Housing Element policies discourage demolition and encourage the maintenance of the City's existing housing stock, thereby reducing the 2009 Housing Element's effects on the potential need for the construction or expansion of stormwater drainage facilities by discouraging demolition and encouraging the preservation of existing housing.

Impact	2009 Housing Element	Corresponding 1990 Residence Element Policy
Discourage demolition and	Policy 2.3: Prevent the destruction or reduction of housing for parking.	

Impact	2009 Housing Element	Corresponding 1990 Residence Element Policy
improve existing housing supply.	Policy 2.4: Promote improvements and continued maintenance of existing units to ensure long term habitation and safety.	Objective 5: To maintain and improve the physical condition of housing while maintaining existing affordability levels. Policy 5.1: Assure that existing housing is maintained in decent, safe sanitary conditions at existing affordability levels. Policy 5.2: Promote and support voluntary housing rehabilitation which does not result in the displacement of lower income occupants.
	Policy 3.1: Preserve rental units, especially rent controlled units, to meet the City's affordable housing needs	Policy 3.1: Discourage the demolition of sound existing housing.
	Policy 3.2: Promote voluntary housing acquisition and rehabilitation to protect affordability for exiting occupants.	Policy 5.2: Promote and support voluntary housing rehabilitation which does not result in the displacement of lower income occupants.
	Policy 3.4: Preserve "naturally affordable" housing types, such as smaller and older ownership units.	
	Policy 3.5: Retain permanently affordable residential hotels and single room occupancy (SRO) units.	Policy 3.7: Preserve the existing stock of residential hotels.
	Policy 9.3: Maintain and improve the condition of the existing supply of public housing, through programs such as HOPE SF.	Policy 5.4: Maintain and improve the existing supply of public housing. Policy 7.5: Encourage energy efficiency in new residential development and weatherization in existing housing to reduce overall housing costs.

When taken as a whole, the 2009 Housing Element would have less of a potential to reduce impacts related to stormwater drainage facilities due to increased density than the 2004 Housing Element. Therefore, the 2009 Housing Element would promote density to a lesser extent than the 1990 Residence Element, which could potentially result in more impervious surfaces and more stormwater connections.

As shown above, the 2009 Housing Element proposes policies (see Objective 2 and Policies 2.1, 2.2, 2.3, 2.4, and 2.5) that discourage demolition and encourage preservation of existing units to a similar extent when compared to the 1990 Residence Element. This could reduce the 2009 Housing Element's effects on the potential need for new or altered stormwater drainage facilities by limiting the creation of new impervious surfaces (such as parking areas). 2009 Housing Element Objective 2 and Policies 2.1, 2.2, 2.4, and 2.5 are essentially the same as their corresponding 1990 Residence Element policies and would not represent a shift in policy. 2009 Housing Element Policy 2.3 discourages the modification of housing for parking and would essentially maintain the status quo, resulting in no foreseeable changes to the amount of impervious surface. Essentially both the 1990 Residence Element and 2009 Housing Element recognize the importance of maintaining the City's housing stock and therefore do not represent a shift in policy. As discussed under Impact UT-2, the 2009 Housing Element also contains Policy 12.3, which could reduce the 2009 Housing Element's effects on the potential need for stormwater drainage facilities by ensuring housing is sustainably supported by sewer system, which also function as stormwater drainage systems in the City.

Although the 2009 Housing Element would not result in the construction of residential units, it would shape how new residential development should occur and ensures that there is adequate land available to meet future housing needs. Potential impacts related to related to stormwater facilities would be offset by compliance with the previously discussed regulations, including the stormwater design requirement of the SFGBO and the Green Landscaping Ordinance. Compliance with the SFGBO would reduce the amount of impervious surfaces and treat 90 percent of stormwater. Therefore, the 2009 Housing Element would have a *less than significant* impact with respect to the need for the construction or expansion of stormwater drainage facilities.

Impact UT-4: The proposed Housing Elements would have sufficient water supply available to serve the project from existing entitlements and resources and would not require new or expanded water supply resources or entitlements. (Less than Significant)

New construction could result in impacts related to water supply if new housing results in additional need for water beyond what is provided by existing entitlements and resources, thereby requiring new or expanded resources or entitlements. For example, increases in density would likely be accomplished through the construction of multi-family housing, which uses less water than single-family housing. Overall, demand for water would be the same under the proposed Housing Elements because they would not result in an increase in population. The proposed Housing Elements would accommodate population growth by increasing density and through other accommodations, while also ensuring that there is sufficient land available to meet future housing needs.

As previously discussed, the proposed Housing Elements are policy documents that provide direction for accommodating the need for new housing driven by population growth. To meet the City's share of the regional housing need, as established in the RHNA prepared by ABAG, the proposed Housing Elements aim to do the following: 1) preserve and upgrade existing housing units to ensure they do not become dilapidated, abandoned, or unsound, and 2) provide direction for how new housing development in the City should occur. The proposed Housing Elements would not result in the construction of residential units and would not result in an increase demand for water. Future population growth as predicted by

ABAG would increase water demand. As shown in Table V.L-4, if necessary, the water deficit in 2010 can be solved by the purchase of additional water with the payment of an Environmental Surcharge, which the SFPUC is allowed to do under the Water Supply Agreement. In addition, the SFPUC determined that beginning in 2015, with the WSAP and RWSAP in place, and the addition of local WSIP supplies, the SFPUC finds it has sufficient water available to serve its retail customers, including existing and planned future uses. The WSA does not take into account water efficiencies that will be required of new development through the SFGBO. The SFGBO requires water efficient landscaping and water conservation for new construction. The recently adopted Green Landscaping Ordinance would also help to reduce the amount of water used for landscaping.

2004 Housing Element Analysis

As discussed under Impact UT-2, the 2004 Housing Element proposes policies (see Policy 1.5 and Implementation Measure 4.1.4) that promote development on undeveloped sites to the same extent as the 1990 Residence Element. Measures that encourage the intensification of uses on underdeveloped or developed sites could increase water demand by increasing the number of water hookups. 2004 Housing Element Policy 1.5 does not represent a policy shift from 1990 Residence Element Policy 1.1. The City's soft site analysis is essentially the identification of the underutilized and vacant sites, which is the subject of 2004 Implementation Measure 4.1.4. A portion of 2004 Implementation Measure 4.1.4 is similar to 2004 Housing Element Implementation Measure 1.3.3 with respect to development of Brownfield sites, which is not viewed as a policy shift. Therefore, the 2004 Housing Element would promote housing construction on undeveloped sites to an extent similar to the 1990 Residence Element and would result in a similar water demand.

However, as discussed under Impact UT-2, the 2004 Housing Element also proposes policies that promote increased density (see Policies 1.7, 11.7, and 11.8 and Implementation Measure 1.3.1) to a greater degree than the 1990 Residence Element. Measures that encourage housing density could be partially achieved by decreasing the amount of new development overall because more people could be housed in a given building, which could reduce the number of required water hookups. In addition, measures that encourage housing density could be partially achieved by the construction of multi-family housing, which uses less water than single-family housing. 2004 Housing Element Policy 4.4 would grant parking requirement exemptions, a policy not included in 1990 Residence Element Policy 7.3, but which could increase buildable areas, thereby potentially increasing the number of units that can be accommodated on a given site. 2004 Housing Element Policy 11.6 could increase density through a Better Neighborhoods type of planning process, a policy not proposed by the 1990 Residence Element. Therefore, the 2004 Housing Element promotes increased density, and could therefore reduce the demand for water compared to the 1990 Residence Element.

Furthermore, as discussed under Impact UT-2, the 2004 Housing Element also proposes Policies 11.2 and 11.10, which could reduce the 2004 Housing Element's effects on the potential for inadequate water supply by ensuring housing is provided with adequate public services, including adequate water supply, and including energy efficient features, such as low-flow toilets and faucets, in new housing to reduce water demand. Although the 2004 Housing Element would not result in the construction of residential

units, all new development would be required to comply with the previously discussed federal, state, and local regulations, including the City's Green Building Ordinance, Article 21 of the San Francisco Public Works Code, and the Residential Water Conservation Ordinance. The 2004 Housing Element would not result in an increase in water demand beyond that assumed in the SFPUC's Water Supply Availability Study. The 2004 Housing Element does not promote policies that represent a shift in policy that would increase water use. In fact, policies that increase density could reduce Citywide water use more so than policies in the 1990 Residence Element that do not promote increased density to the extent of the 2004 Housing Element. Therefore, the 2004 Housing Element would have a *less than significant* impact with respect to new or expanded water supply resources or entitlements.

2009 Housing Element Analysis

Overall, the 1990 Residence Element promotes increased density on a broader, citywide, scale to a greater extent than the 2009 Housing Element. However, there are two areas under which the 2009 Housing Element promotes greater density. These include the following themes: increased density for affordable housing projects; and increased density as a strategy to be pursued through the community planning process. The 2009 Housing Element Policy 1.2 and Implementation Measures 3 and 4, promote development on undeveloped sites to a greater extent than the 1990 Residence Element by using stronger language and providing a list of opportunity sites, one of which is undeveloped. Measures that encourage the intensification of uses on underdeveloped or developed sites could increase water demand by increasing the number of water hookups. Policy 1.3 directs the City to proactively identify opportunity sites for affordable housing, providing stronger direction than 1990 Residence Element Policies 7.1 and 1.1. Part I of the 2009 Housing Element lists opportunity sites on public lands where future housing might be possible. Most of these sites are already developed; however the Balboa reservoir site is undeveloped and the intensification of uses on this site would require additional water hookups and could increase water demand. Therefore, the 2009 Housing Element would promote housing construction on undeveloped sites to a greater extent than the 1990 Residence Element and could result in an incrementally increased demand for water.

Furthermore, as discussed under Impact UT-2, the 1990 Residence Element promotes increased density on a broader, citywide, scale to a greater extent than the 2009 Housing Element. Some policies in the 2009 Housing Element could promote density near transit, increased density for affordable housing projects, and increased density through the community planning process to a greater degree than the 1990 Residence Element. Measures that encourage housing density could be partially achieved by decreasing the amount of new development overall because more people could be housed in a given building, which could reduce the number of required water hookups. In addition, measures that encourage housing density could be partially achieved by the construction of multi-family housing, which uses less water than single-family housing. Nonetheless, the 2009 Housing Element, when compared to the 1990 Residence Element, does not aggressively promote density more so than the 1990 Residence Element. When taken as a whole, the 2009 Housing Element would have less of a potential to result in reduced water demand due to a reduced number of water hookups and reduced focus on the construction of multi-family housing to accommodate increased density compared to the 2004 Housing Element. Therefore, the 2009 Housing

Element would promote density to a lesser extent than the 1990 Residence Element, which could potentially result in an incrementally increased demand for water.

However, as discussed under Impact UT-2, the 2009 Housing Element also proposes a policy (see Policy 1.1) that could reduce the 2009 Housing Element's effects on the potential for inadequate water supply by ensuring new housing is adequately supported by infrastructure, including water. Essentially both the 1990 Residence Element and 2009 Housing Element (see Policies 12.2, 12.3, and 13.4) recognize the need for considering adequate infrastructure for new housing, ensuring sustainable water systems, and "green" water conservation measures in housing to reduce water demand, and therefore do not represent a shift in policy. The SFPUC, DBI, Planning Department, and Department of the Environment would continue to implement the SFGBO and other programs with or without 2009 Housing Element Implementation Measures 92 and 101; therefore, these implementation measures do not represent a substantial shift from the 1990 Residence Element. Although the 2009 Housing Element would not result in the construction of residential units, all new development would be required to comply with the previously discussed regulations. The 2009 Housing Element would not result in an increase in water demand beyond that assumed in the SFPUC's Water Supply Availability Study. Therefore, the 2009 Housing Element would have a *less than significant* impact with respect to new or expanded water supply resources or entitlements.

Impact UT-5: The proposed Housing Elements would not be served by a landfill without sufficient permitted capacity to accommodate the project's solid waste disposal needs. (Less than Significant)

New construction could result in impacts related to landfill capacity if new housing would result in increased demand for solid waste disposal that would not be able to be accommodated by an existing landfill with adequate capacity. For example, the proposed Housing Elements could promote changes to density, which could result in for the generation of different types and levels of solid waste generation. Proposed Housing Element policies that promote housing of certain types or in certain locations could change the composition of the City's solid waste stream.

Additional collection trucks and personnel could be required to provide services to new housing.²¹ The development of new housing could also add further strain to space-constrained corporation yards and waste processing and recycling facilities. Additional trucks require additional space to park. At some increment of additional trucks, additional bays would be needed at vehicle maintenance facilities. The additional tonnage generated by new housing would increase throughput at waste processing and recycling facilities. At some increment of additional tonnage, additional processing lines would be needed at waste processing and recycling facilities. Ultimately, the impacts on solid waste services depend on the magnitude of increased demand on the system, which in turn depends on how much and what type of housing is added to the City. It may be noted that multi-family housing is significantly more challenging with regard to successful separation of recyclables and compostables than it is at single-family residences.

²¹ John Glaub, Sunset Scavenger, response to service letter request, November 6, 2009.

As a consequence, multi-family housing generally places greater demands on waste processing and recycling infrastructure.

2004 Housing Element Analysis

As discussed under Impact UT-2, the 2004 Housing Element proposes policies that promote increased density to a greater degree than the 1990 Residence Element. Construction associated with new housing could potentially result in inadequate waste, recycle, or compost collection service or inadequate landfill capacity because increased density or changes in land use patterns could increase waste stream separation challenges due to the promotion of higher density housing and increased waste generation expected from increased population growth. As discussed under Impact UT-3, and throughout this EIR, the 2004 Housing Element contains numerous policies that promote the preservation of existing housing units. Reduction in demolition would reduce the amount of construction demolition debris associated with new construction. As discussed under Impact UT-2, the 2004 Housing Element also contains Policies 1.4 and 11.2, which could reduce the 2004 Housing Element's effects on the potential for housing to be served by inadequate waste, recycle, or compost collection service or a landfill with inadequate capacity by promoting housing in established residential neighborhoods where adequate collection services already exist and ensuring that housing is provided with adequate public services, including solid waste collection service. Although the 2004 Housing Element would not result in the construction of residential units, all new development would be required to comply with the previously discussed regulations, including the City's Green Building Ordinance, Ordinance No. 27-06, Mandatory Recycling and Composting Ordinance, and AB-088 (all of which contribute to the City's goal of zero waste by 2020). The 2004 Housing Element does not promote policies that represent a shift in policy that would increase solid waste generation. The increase in density proposed by the 2004 Housing Element would be offset by the Mandatory Recycling and Composting Ordinance and compliance with the SFGBO requirements for new development to have adequate open space for collection of recyclables, compostables, and waste. Therefore, the 2004 Housing Element would have a *less than significant* impact with respect to landfill capacity.

2009 Housing Element Analysis

As discussed under Impact UT-2, the 1990 Residence Element promotes increased density on a broader, citywide, scale to a greater extent than the 2009 Housing Element. Some policies in the 2009 Housing Element could promote density near transit, increased density for affordable housing projects, and increased density through the community planning process to a greater degree than the 1990 Residence Element. Construction associated with new housing could potentially result in inadequate waste, recycle, or compost collection service or inadequate landfill capacity because increased density or changes in land use patterns could increase waste stream separation challenges due to the promotion of higher density housing and increased waste generation expected from increased population growth. Nonetheless, the 2009 Housing Element, when compared to the 1990 Residence Element, does not aggressively promote density more so than the 1990 Residence Element. When taken as a whole, the 2009 Housing Element would have less of a potential to result in increased solid waste generation due to the reduced focus on construction associated with new housing to accommodate increased density compared to the 2004

Housing Element. Therefore, the 2009 Housing Element would promote density to a lesser extent than the 1990 Residence Element, which could potentially result in an incrementally decreased generation of solid waste.

The following 2009 Housing Element policy could reduce the 2009 Housing Element's effects on the potential need for inadequate landfill capacity promoting the preservation of existing housing.

Impact	2009 Housing Element	Corresponding 1990 Residence Element Policy
Preservation of, improvements to and maintenance of existing housing would decrease demolition, which could potentially reduce construction debris.	Policy 2.4: Promote physical improvements and continued maintenance to existing units to ensure their long term habitation and safety.	Objective 5: To maintain and improve the physical condition of housing while maintaining existing affordability levels. 5.1: Assure that existing housing is maintained in decent, safe sanitary condition at existing affordability levels. 5.2: Promote and support voluntary housing rehabilitation which does not result in the displacement of lower income occupants.
	Policy 3.1: Preserve rental units, especially rent controlled units, to meet the City's affordable housing needs.	10.1: Preserve affordability of existing affordable units. 3.5: Prohibit the conversion of rental housing to time share, corporate suite or hotel use.
	Policy 3.3: Preserve "naturally affordable" housing types, such as smaller and older ownership units.	10.1: Preserve affordability of existing affordable units.
	Policy 9.3: Maintain and improve the condition of the existing supply of public housing, through programs such as HOPE SF.	5.4: Maintain and improve the existing supply of public housing. 7.5: Encourage energy efficiency in new residential development and weatherization in existing housing to reduce overall housing costs.
	IM 68: MOH shall continue to lead a citywide effort, in partnership with SFRA, SFHA, and other City agencies to prioritize and facilitate the preservation and redevelopment of the City's distressed public housing according to the recommendations of the HOPE SF task force.	

As shown above, both the 2009 Housing Element and the 1990 Residence Element recognize the need for the preservation of and improvements to existing housing. Reduction in demolition would reduce the amount of construction demolition debris associated with new construction. 2009 Housing Element Policies 2.4, 3.1, 3.3, and 9.3 are essentially the same as their corresponding 1990 Residence Element policies and would not represent a shift in policy. 2009 Implementation Measure 68 identifies an ongoing program within the City that would continue regardless of the 2009 Housing Element. As discussed under Impact UT-2, the 2009 Housing Element also proposes a policy (see Policy 1.1) that could reduce the 2009 Housing Element's effects on the potential for housing to be served by inadequate waste, recycle, or compost collection service or a landfill with inadequate capacity by planning for projected housing needs, including landfill capacity. Essentially both the 1990 Residence Element and 2009 Housing Element (see Policies 12.2 and 13.4) recognize the need for considering neighborhood service availability for new housing and "green" development, which could include the use of recycled construction materials and therefore do not represent a shift in policy. The SFPUC, DBI, Planning Department, and Department of the Environment would continue to implement the City's Green Building Ordinance and other programs with or without 2009 Housing Element Implementation Measures 92 and 101; therefore, these implementation measures do not represent a substantial shift from the 1990 Residence Element. Although the 2009 Housing Element would not result in the construction of residential units, all new development would be required to comply with the previously discussed regulations. The 2009 Housing Element does not promote policies that represent a shift in policy that would increase solid waste generation. The increase in density near transit, for affordable housing projects, and through the community planning process proposed by the 2009 Housing Element would be offset by the Mandatory Recycling and Composting Ordinance. Therefore, the 2009 Housing Element would have a *less than significant* impact with respect to landfill capacity.

Cumulative Impacts

The geographic context for cumulative wastewater and water service impacts is SFPUC's service area. Cumulative impacts occur when impacts that are significant or less than significant from a proposed project combine with similar impacts from other past, present, or reasonably foreseeable projects in a similar geographic area. This would include the demolition of existing structures or new construction in the City resulting from past, present and reasonably foreseeable future projects combining with similar impacts from the 2004 Housing Element and 2009 Housing Element. The cumulative effect of development, which ABAG projects to be 390,573 households within the City by 2025, could contribute to impacts related to wastewater and water. As discussed throughout this Draft EIR, growth would occur regardless of implementation of the proposed Housing Elements. The proposed Housing Elements merely guide new residential construction with an emphasis on affordability. Furthermore, any new development within the City would be subject, on a project-by-project basis, to independent CEQA review as well as policies in the San Francisco General Plan, governing area plans, design guidelines, zoning codes (including development standards), and other applicable land use plans that are intended to reduce impacts related to wastewater and water. The 2004 Housing Element and 2009 Housing Element policies would not directly or indirectly affect wastewater and water. New development could affect such water

supply and wastewater treatment capacity, but would be evaluated on a project-by-project basis. In addition, the 2004 Housing Element and 2009 Housing Element are public policy documents and would not result in direct significant impacts. The policies of the proposed Housing Elements would not increase water use and wastewater generation; in fact, many policies have the potential to decrease water use and wastewater generation by emphasizing increased density and/or water conservation. Overall, under 2025 cumulative conditions, the 2004 Housing Element could decrease water use and wastewater requirements. On the other hand, the 2009 Housing Element does not emphasize overall density in the City to the same extent as the 1990 Residence Element and does not have the same potential as the 2004 Housing Element to decrease water use and wastewater requirements.

As described previously, the SFBRWQCB develops and enforces water quality objectives and implementation plans that safeguard the quality of water resources in its region. All new development would be required to comply with all applicable wastewater treatment requirements of the SFBRWQCB. Therefore, the cumulative impact of new development in combination with the proposed Housing Elements would have a *less than significant* impact related to the exceedance of wastewater treatment requirements of the SFBRWQCB.

Cumulative growth by 2025 in the SFPUC's service area could result in the need for additional wastewater conveyance infrastructure, which could result in significant cumulative impacts depending upon the nature and extent of the proposed improvements. However, any project connecting to the sewer system would be required to pay connection fees in accordance with existing regulations. Furthermore, cumulative growth from new construction would have fewer impacts due to stormwater design and treatment requirements under the SFGBO. Existing regulations ensure that all users pay their fair share for any necessary expansion of the system, including any expansion to wastewater treatment facilities. Therefore, this cumulative impact would be *less than significant*. Projects would be required to meet all City requirements, which would identify any further infrastructure necessary for the development. Any recommended infrastructure would be designed in accordance with the SFPUC's standards. Therefore, the proposed Housing Elements would not result in a cumulatively considerable contribution to an impact on wastewater infrastructure. The cumulative impact of the proposed Housing Elements would be *less than significant* with respect to wastewater infrastructure.

As previously discussed, an update to the Sewer System Master Plan currently in the draft planning stage and is expected to use ABAG population projections for planning purposes. The proposed Housing Elements would be within ABAG's growth forecast and, as previously discussed, the existing wastewater treatment plants are currently operating below their design capacity. Therefore, it is anticipated that cumulative development would not exceed the capacity of the wastewater treatment system. This cumulative impact related to wastewater treatment capacity would be *less than significant*. The City would continue to implement water conservation measures that would result in a decrease in wastewater generation, and each of the wastewater treatment plants would still have excess capacity. Therefore, the proposed Housing Elements would not result in a cumulatively considerable contribution to an impact on wastewater treatment facilities. The cumulative impact of the proposed Housing Elements would be *less than significant* with respect to wastewater treatment.

Cumulative growth in the SFPUC's service area could result in the need for additional water conveyance infrastructure, which could result in significant cumulative impacts depending upon the nature and extent of the proposed improvements. However, any project connecting to the water system would be required to pay connection fees in accordance with existing regulations. Existing regulations ensure that all users pay their fair share for any necessary expansion of the system, including expansion to water treatment facilities. Therefore, this cumulative impact related to water conveyance infrastructure would be *less than significant*. Further, new development projects would be required to meet all City requirements, which would identify any further infrastructure necessary for the development. Any recommended infrastructure would be designed in accordance with the SFPUC's standards. Therefore, the proposed Housing Elements would not result in a cumulatively considerable contribution to an impact on water infrastructure. The cumulative impact of the proposed Housing Elements would be *less than significant* with respect to water infrastructure.

The SFPUC incorporates regional projections to calculate future growth.²² Projections from the ABAG's 2009 Projections are used as a guideline to approximate what the long-term growth rates will be for the SFPUC. The proposed Housing Elements, which seek to meet the RHNA projections, would be within ABAG's growth forecast. In addition, an overall increase in wastewater generation is not anticipated. It is, however, anticipated that future cumulative development would not exceed the capacity of the water treatment system. Therefore, this cumulative impact related to water treatment capacity would be *less than significant*. The City would continue to implement water conservation measures that would result in a decrease in water demand, and each of the water treatment plants would still have excess capacity. Therefore, the proposed Housing Elements would not result in a cumulatively considerable contribution to an impact on water treatment. The cumulative impact of the proposed Housing Elements would be *less than significant* with respect to water treatment.

Although all water providers are required to prepare plans to ensure that adequate water supplies exist for future growth, there is ongoing controversy surrounding the State's water supply and distribution efforts. SFPUC, the City's provider of water, has indicated it can accommodate existing and future demand through 2030. Any deficiency before 2015 can be solved by the purchase of additional water with the payment of an Environmental Surcharge, which the SFPUC is allowed to do under the Water Supply Agreement. Finally, new development would be required to comply with Section 10910 of the California Water Code. In addition, compliance with the SFGBO and water conservation ordinances would reduce water use by new and existing development. This cumulative impact related to water supply would be *less than significant*. The implementation of conservation measures would be required on a project-specific basis and water shortage contingency plans would further reduce additional water demand. Therefore, the proposed Housing Elements would not result in a cumulatively considerable contribution to an impact on water supply because they would not result in population increases and would potentially decrease water use by emphasizing increased density as opposed to single-family housing. Furthermore, new construction would be required to comply with SFGBO and water conservation ordinances, reducing

²² Ibid., at page 6.

water use within new and existing residential development. The cumulative impact of the proposed Housing Elements would be *less than significant* with respect to water supply.

The geographic context for the analysis of cumulative impacts related to solid waste would be the service area of Recology Sunset Scavenger and Recology Golden Gate. New development would generate additional generation of solid waste, depending on net increases in population, square footage, and intensification of uses. Cumulative new development and population growth would contribute to the overall regional generation of solid waste. Cumulative growth in the service area of Recology Sunset Scavenger and Recology Golden Gate could result in the need for additional landfill capacity. Despite the previously discussed anticipated sufficient capacity of Altamont Landfill, any existing capacity that currently exists within the landfill's service boundary is finite. Thus, it is considered that, without approved specific plans for substantial expansion of the landfill facilities that serve the County, solid waste generation from approved and foreseeable cumulative projects in the City would exacerbate regional landfill capacity issues in the future. That is, any additional solid waste incrementally added to existing facilities will decrease the amount of time until they reach capacity. Implementation of source reduction measures would be required on a project-specific basis and plans such as those for recycling would partially address landfill capacity issues by diverting additional solid waste at the source of generation. However, because of the issues discussed above, development associated with cumulative projects within and around the City would be cumulatively considerable. Although the proposed Housing Elements would have a *less than significant* contribution to this effect, impacts of future growth would be significant and unavoidable with respect to landfill capacity.

As previously stated, according to AB 939, all cities and counties in California are required to divert 25 percent of all solid waste to recycling facilities from landfill or transformation facilities by January 1, 1995, and 50 percent by January 1, 2000. The policies of the proposed Housing Elements would not increase solid waste generation; in fact, they have the potential to decrease solid waste generation by emphasizing increased density and the preservation of existing housing. As previously discussed, the City has adopted goals of 75 percent landfill diversion by 2010 and zero waste by 2020. San Francisco currently recovers 72 percent of the materials it discards. The City is well on its way to meeting its diversion goals. In addition, the City has adopted Ordinance No. 27-06, Mandatory Recycling and Composting Ordinance, and AB-088. These regulations adopted by the City ensure it is exceeding the requirements of AB 939. Therefore, the proposed Housing Elements would have *no cumulative impact* with respect to solid waste regulations.

MITIGATION AND IMPROVEMENT MEASURES

Mitigation Measures

No mitigation measures are warranted by the proposed Housing Elements.

Improvement Measures

No improvements measures are warranted by the proposed Housing Elements.

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